DOCUMENT RESUME

ED 307 405 CE 052 461

AUTHOR Dorsten, Linda Eberst; Hollenbeck, Kevin
TITLE Private Sector Participation with Postsecondary Institutions. Final Report.
INSTITUTION Ohio State Univ., Columbus. Center on Education and Training for Employment.
SPONS AGENCY National Commission for Employment Policy (DOL), Washington, D.C.
PUB DATE May 89
CONTRACT J-9-M-8-0028
NOTE 109p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS *Administrator Attitudes; Business Responsibility; Cooperative Programs; *Educational Attitudes; Education Work Relationship; *Employer Attitudes; *Institutional Cooperation; Postsecondary Education; *School Business Relationship; *Vocational Education

ABSTRACT

A study was conducted to collect and examine information on the nature and extent of business and postsecondary occupational program linkages. Data were gathered through a telephone survey of 76 administrators of postsecondary institutions that had both high and low linkages to private industry, and of 661 employers, half of whom were currently involved with secondary institutions and half selected randomly. The study found evidence of considerable private sector interaction with postsecondary institutions, such as in employment recruitment, cooperative work experience programs, advisory committees, and career information programs. The study noted that the motivating forces and time perspectives of educational agencies and employers differ significantly. Employers are motivated by economic factors such as profit and loss and tend to have short time frames. If they are to become involved in postsecondary education, they want to know how it will benefit them or their firm economically and they want payoff periods to be as short as possible. The educational institutions, on the other hand, have much longer time frames and are motivated by the teaching and learning process. Five possibilities for governmental action were identified. The findings suggest that additional or improved collaborative efforts would benefit all parties and society as a whole. (Sample selection methods, interview forms, and 13 references are appended.) (KC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

THE CENTER MISSION STATEMENT

The mission of the Center on Education and Training for Employment is to facilitate the career and occupational preparation and advancement of youth and adults by utilizing The Ohio State University's capacity to increase knowledge and provide services with regard to the skill needs of the work force.

The Center fulfills its mission by conducting applied research, evaluation, and policy analyses and providing leadership development, technical assistance, curriculum development, and information services pertaining to:

- impact of changing technology in the workplace and on the delivery of education and training
- quality and outcomes of education and training for employment
- quality and nature of partnerships with education, business, industry, and labor
- opportunity for disadvantaged and special populations to succeed in education, training, and work environments
- short- and long-range planning for education and training agencies
- approaches to enhancing economic development and job creation

PRIVATE SECTOR PARTICIPATION WITH POSTSECONDARY INSTITUTIONS

FINAL REPORT

Linda Eberst Dorsten
Kevin Hollenbeck

Prepared for the

National Commission for Employment Policy
1522 K Street, NW
Washington, DC 20005

Center on Education and Training for Employment
The Ohio State University
1900 Kenny Road
Columbus, OH 43210-1090

May, 1989

BEST COPY AVAILABLE

FUNDING INFORMATION

Project Title:	Private Sector Involvement with Postsecondary Institutions
Contract Number:	J-9-M-8-0028
Project Number:	720551
Source of Contract:	National Commission for Employment Policy 1522 K Street NW Washington, DC 20005
Project Officers:	David Stier and Elaine Brady
Contractor:	Center on Education and Training for Employment The Ohio State University Columbus, OH 43210-1090
Executive Director:	Ray D. Ryan
Project Director:	Kevin M. Hollenbeck
Disclaimer:	This publication was prepared pursuant to a contract with the National Commission for Employment Policy. Contractors undertaking such projects under government sponsorship are encouraged to express freely their judgment in professional and technical matters. Points of view or opinions do not, therefore, necessarily represent official National Commission for Employment Policy position or policy.
Discrimination Prohibited	Title VI of the Civil Rights Act of 1964 states: "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under the program or activity receiving federal financial assistance." Title IX of the Education Amendments of 1972 states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal assistance." The Private Sector Involvement with Postsecondary Institutions project, like every program or activity receiving financial assistance from the U.S. government, must comply with these laws.

TABLE OF CONTENTS

FOREWORD vii

EXECUTIVE SUMMARY ix

CHAPTER 1: INTRODUCTION 1
Overview of Report 2

CHAPTER 2: INCENTIVES AND DISINCENTIVES ASSOCIATED WITH PRIVATE SECTOR PARTICIPATION 5
Theory and Evidence 5
Data and Methods 7
Findings 7
Summary and Implications 18

CHAPTER 3: POSTSECONDARY INSTITUTIONS WITH HIGH AND LOW LEVELS OF PRIVATE SECTOR PARTICIPATION 21
Specific Objectives 21
Theory and Evidence 22
Findings 23
Summary: Barriers and Strategies 31

CHAPTER 4: PRIVATE SECTOR PARTICIPATION IN POSTSECONDARY EDUCATION: THE ROLE AND CONTRIBUTIONS OF GOVERNMENT 35
Findings 36
Summary and Conclusions 43

CHAPTER 5: RECOMMENDATIONS FOR POLICY AND PRACTICE 45
The Range of Policy Options 45
Policy Recommendations 47
Recommendations Concerning Practice 48
Summary 51

APPENDIX A: METHODS OF SAMPLE SELECTION 53

APPENDIX B: INTERVIEW FORMS 75

REFERENCES 95

LIST OF EXHIBITS

2.1 LEVELS OF PRIVATE SECTOR PARTICIPATION WITH POSTSECONDARY INSTITUTIONS 10

3.1 DIFFERENCES IN POSTSECONDARY PROGRAMS STUDIED, BY LEVEL OF PRIVATE SECTOR PARTICIPATION 29

3.2 ENROLLMENT SIZE OF OCCUPATIONAL PROGRAM AREAS, BY LEVEL OF PRIVATE SECTOR PARTICIPATION 30

3.3 EMPLOYER SIZE, BY LEVEL OF PRIVATE SECTOR PARTICIPATION 32

3.4 LEVEL OF URBANIZATION OF POSTSECONDARY INSTITUTIONS, BY LEVEL OF PRIVATE SECTOR PARTICIPATION 32

4.1 ADMINISTRATORS' RESPONSES: THE ROLE OF GOVERNMENT IN BUSINESS-EDUCATION LINKAGES 37

4.2 ADMINISTRATORS' RESPONSES: THE CONTRIBUTIONS OF GOVERNMENT TO BUSINESS-EDUCATION LINKAGES 39

4.3 EMPLOYERS' RESPONSES: THE ROLE OF GOVERNMENT IN BUSINESS-EDUCATION LINKAGES 40

4.4 EMPLOYERS' RESPONSES: THE CONTRIBUTIONS OF GOVERNMENT IN BUSINESS-EDUCATION LINKAGES 42

FOREWORD

Under section 2 of the Carl D. Perkins Vocational Education Act, one of the purposes of the Act is to call for "greater cooperation between public agencies and the private sector in preparing individuals for employment, in promoting the quality of vocational education in the States, and in making the vocational system more responsive to the labor market in the States." In light of the critical nature of private sector involvement, it is important to consider how such involvement can be enhanced by postsecondary educational administrators, employers, and policymakers.

A major barrier to empirical investigation of private sector involvement has been lack of systematic data at the institutional and establishment (firm) level. This study supplemented a data set previously developed by this agency to investigate postsecondary institutions with a survey of employers who work with those institutions. The study was thus able to construct an empirical picture of private sector participation from the perspectives of both local administrators and employers.

This study would not have been possible without the cooperation and assistance of the 76 postsecondary administrators and over 650 employers who so graciously responded to our telephone interviews. We greatly appreciate the time and the insights that these busy men and women contributed to the study.

We also thank the National Commission for Employment Policy for support of the project and Mr. David Stier and Ms. Elaine Brady, who served as project officers, for their guidance and support.

The project was directed by Dr. Kevin Hollenbeck, who designed the survey and co-authored the final report. Ms. Linda Dorsten ably assisted Dr. Hollenbeck in conducting the study and co-authoring the report. Professor David Stevens was a consultant to the study. The telephone surveys were competently conducted by Joyce Coriell, Karen Coriell, Linda Dorsten, Wallis Harsch, and Judy Whalen. The computer programming and analyses were performed by John Hufnagle. Debbie Weaver and Dorothy Reeder were the project secretaries and ably produced this document. The Center thanks all of them for their hard work.

Ray D. Ryan
Executive Director
Center on Education and
Training for Employment

EXECUTIVE SUMMARY

Private sector involvement with postsecondary occupational education programs is considered to be a critical element of the process that prepares workers for employment. Such involvement serves two fundamental goals. First, it helps to ensure that future employees are well prepared in acquired skills and knowledge of relevant equipment so that they will be productive in the work place. Second, it allows employers to be involved in economic development and enhancement of the business climate of their communities by shaping and improving local educational resources. The promotion of a stronger relationship between business and vocational education is one of the emphases of the Carl D. Perkins Act of 1984. Section 2 of the Act calls for:

> "greater cooperation between public agencies and the private sector in preparing individuals for employment, in promoting the quality of vocational education in the states, and in making the vocational system more responsive to the labor market in the states." (Section 2(3)).

Data and Methods

The purpose of this study was to collect and examine information on the nature and extent of business and postsecondary occupational program linkages. The study provides analyses of data that were collected from administrators of educational institutions and from employers. Data from the postsecondary occupational education perspective was gathered by telephone interviews with 76 administrators of such institutions. Half of these institutions had been determined in a prior study to have very high levels of private sector participation and half had been determined to have very low levels.

The business perspective was gathered through a survey of 661 employers. Half of the employers were nominated to participate in the study by administrators on the basis of current involvement with the institutions and half were selected randomly. Of the total number of employers, 62 percent were from small businesses.

The design of the study, therefore, allowed a comparison of data from administrators and employers. It also allowed a comparison of institutions with high levels of private sector involvement and low levels of such involvement. Finally, the design provided data from a selected group of employers who had considerable involvement with education (the nominated group of employers) and from a group of employers who represented the general business community (the random sample).

Findings

The primary findings from the study are summarized in the following sections. First, the employers' perspectives concerning incentives for and barriers to participation are discussed. Next, the administrators' perspectives are presented. Finally, opinions from both parties concerning the role of government are summarized.

Business Perspective

Two major focuses of the employer interview were a description of the level and nature of their involvement in postsecondary occupational education in their community and to document the incentives and disincentives for employer participation. The major findings from the employer data are as follows:

- Employer level of involvement was categorized as (1) active--continuous involvement over the last 4-5 years, such as regular attendance at advisory committee meetings, ongoing customized or contract training activity, cooperative education site, part-time faculty, or some combination of these--(2) limited active--intermittent involvement and/or involvement in only one activity--(3) minimal--few contacts with postsecondary institutions, such as hired 1-2 graduates or offered tuition reimbursement to current employees--(4) no contact--no current involvement or only minimal past involvement.

- Slightly more than a third of all employers were categorized as actively involved with postsecondary occupational education; about one quarter were involved on a limited active basis; about one quarter were involved minimally; and the remainder of the employers, 14 percent, had no contact.

- By the design of the study, the nominated employers would have more contact with education. The random sample of employees better represents the business community as a whole. Among the random sample, 17 percent of the employers were actively involved; 22 percent were limited active; 36 percent were minimally active; and 25 percent had no contact. From these statistics, it may be concluded that three-quarters of all businesses have some level of involvement with postsecondary institutions and one in six businesses participates actively.

- Over a dozen general modes of employer involvement were identified--institutional advisory committee, program advisory committee, part-time instruction, guest lectures, equipment/cash donations, participation at job fairs/

career days, employee recruitment, upgrade training (e.g. tuition reimbursement), customized/contract training, technical assistance in management/product lines, vending products/services, cooperative education, and faculty "return to industry" programs.

- The modes of involvement that were identified most often were, in order of frequency,--

  --recruitment of employees (mentioned by 49.3 percent of employers)
  --advisory committees (36.8 percent)
  --coops/internships (23.2 percent)
  --attendance of training by current employees (20.1 percent)
  --customized/contract training (14.1 percent)
  --donations (13.2 percent)
  --part-time teaching (12.6%)

- The average number of modes of involvement for the entire sample of employers was about 2.0. Large businesses were involved in more types of activities (average of 2.6) than were small businesses (average of 1.6).

- The motivating incentives for employers who were involved were, in order of frequency,--

  --to identify a source of students for recruitment purposes (mentioned by 31.2 percent of employers)
  --to provide expertise in the education and training process (so that potential future employees will be better trained) (21.3 percent)
  --to improve the productivity of current employees (19.1 percent)
  --to contribute to the community or to pursue a personal interest (15.9 percent)
  --to obtain technical assistance (3.9 percent)
  --to sell a product/service (3.5 percent)

- The most frequently mentioned barriers to employer collaboration and participation were, in order of frequency,

  --inflexibility/bureaucracy of postsecondary institutions (mentioned by 34.0 percent of employers)
  --perceived disinterest or ignoring of employer advice (22.4 percent)
  --time constraints (12.1 percent)
  --other features, such as loss of business or security concerns (3.6 percent)

- Employers reported that the most effective strategies to promote or enhance involvement among the employer community were--

- --personal contacts (e.g. "just ask") (38.9 percent)
- --send information (e.g. program descriptions) (18.3 percent)
- --involvement in substantive tasks, such as advisory or search committees (15.1 percent)
- --coop/internship programs (9.2 percent)

- Less than 3 percent of all employers in the study indicated that they were negative about working with postsecondary institutions, and that becoming involved with them in the future under any circumstances would be unlikely.

Education Perspective

The administrator interviews provided the educational institutions' views as to the barriers and effective strategies for enhancing private sector involvement. The major findings from these administrator data are as follows:

- A total of 33 percent of the administrators felt that a major barrier to employer involvement was one of "image;" administrators believed that education was seen by employers as having an "ivory tower" image or a "vocational education stigma," for example.

- If problems related to the abstract concept of "image" were to disappear, however, 25 percent of the administrators still believed that the concrete problem of inadequate resources to cover the costs of reciprocity and commitment would be a major barrier. Specifically, administrators identified the staff time required to make and maintain personal and professional contacts. Second, they pointed to the time, money, and even equipment, that are required for carefully planned and effectively executed meetings, informational materials, and specialized training curricula.

- Administrators felt that several types of external factors were detrimental to the development of successful business and education relationships. Bureaucratic rigidity within their own institutions or at the business establishment, employer attempts to narrow curricula to their own specific need, and contradictory requests from employers and organized labor were commonly mentioned problems challenging postsecondary institutional administrators.

- The four most often mentioned successful strategies for involving business were--

- --involve employers on institutional boards or program advisory committees (mentioned by 38 percent of the administrators)
- --personal contacts with employers to determine their needs and explain institution's capability (25 percent)
- --participate in local organizations such as the Chamber of Commerce or PIC (17 percent)
- --maintain continuing contacts (13 percent)

- o Administrators from postsecondary institutions that ranked high in private sector involvement differed from administrators of institutions that ranked low in their responses to the question of effective strategies for involving business. Those ranked high reported that the most important aspects of dealing with the business community were the substance and continuity of the contacts. Such administrators recommended being completely honest with employers about what can or cannot be provided (and why) and stressing the benefits that can be derived by business from involvement with the institution. Those ranked low emphasized marketing the capabilities of the institution to a wide audience and never saying no.

The Role of Government

Both the administrators and employers were asked to assess the roles that the federal or state governments should play and have played in promoting the interaction of the business community and postsecondary institutions. The major findings from this assessment were as follows:

- o There was little evidence that the federal government has had direct impact on fostering private sector involvement.

- o Administrators from the postsecondary institutions were much more likely than employers to state that the government should or has played a role in linking education and industry. Almost 80 percent of the administrators believed that government should be involved in some way, whereas less than 60 percent of employers held that view.

- o Administrators from institutions that had a high level at employer participation were more likely to identify vocational education funds or regulations as a force bringing business and education together than their counterparts from institutions that had low levels for employer involvement. The latter were more likely to point to JTPA. Employers were more likely to identify JTPA (or CETA), on the other hand, than vocational education or other Education Department programs.

- For both employers and institutions, the best predictor of attitudes favoring government involvement to foster education-industry linkages was the extent of current involvement in such linkages. Therefore, government incentives or process regulations would most likely benefit collaborative arrangements that were already established.

Policy Recommendations

The data collected for this study revealed numerous joint activities and documented both administrators' and employers' reasons for engaging in these activities. The study clearly demonstrated that private sector involvement was benefiting both parties. To recommend particular policy options, however, the question of the extent to which government should get involved needs to be addressed. Economic theory would suggest a role only if there were (positive or negative) externalities associated with the joint activity. If employers and postsecondary institutions were the only parties that benefit from their interaction, then there is no reason for governmental intervention. However, if third parties were benefited (or harmed), there may be a role for government. It seems clear that the latter is the case. Enhancing the quality of training at an institution results in more productive students entering the work force, results in greater economic vitality of localities, and results in the programs of other institutions being affected.

Accepting the premise that there is a role for governmental action, the range of alternatives for that role is wide. The possibilities include the following:

- The government could mandate processes to ensure private sector involvement. Private sector membership on the National and State Councils on Vocational Education and state technical committees as specified in the Perkins Act represent such a mandate. However, the government could go further in mandating process requirements such as requiring private sector-led local councils for vocational education institutions (following the PIC model from JTPA).

- Incentives for the promotion of private sector involvement could be instituted instead of mandates. For example, a portion of the states' allocations of federal support could be used to reward institutions that establish and maintain effective joint activities. Corporations or individuals could be given tax advantages for their time and efforts.

- The government could encourage coordination through the provision of information or technical assistance. Exemplary linkage activities could be publicized. Evaluations or other studies of effectiveness could be sponsored and disseminated. An information clearinghouse could be established.

- Restricted grants or demonstration funds could be made available to institutions to promote coordination. One approach might be to award grants to institutions that are interested in initiating or improving their coordination mechanisms to overcome specific resource constraints.

- The government could decide to do nothing. Policy makers could decide that an unrestricted market approach will result in the most appropriate levels and types of interaction.

Considering these various alternatives in light of the data collected for this study, the following three recommendations are made:

Recommendation 1. Reauthorization of the Perkins Act should include a provision for grants to promote business-education coordination.

The lack of compelling evidence concerning the benefits from federal involvement in promoting business participation with postsecondary occupational education programs and the significant level of opposition to federal involvement from employers suggest that process mandates would not be advisable. However, administrators did provide examples of situations where joint activities were constrained by inadequate resources. Grants of modest size and scope could be made available to overcome such resource barriers. Since a basis for governmental funding is the potential economic development of the locality or state, a matching requirement out of economic development funds could be considered.

A model for such an approach can be found in cooperative education legislation and regulations, Title VIII of the Higher Education Amendments of 1986. That title provides modest funding for ongoing programs and demonstration projects to promote innovation. In fact, since cooperative education is a prime example of postsecondary institution-private sector interaction, consideration should be given to coordinating or combining this title with the vocational education legislation.

Recommendation 2. Evaluate the effectiveness of private sector involvement on state councils and state technical committees in fostering private sector involvement at the postsecondary level.

That only one or two respondents in the entire study mentioned that the state council or a technical committee has influenced private sector involvement suggests that (1) private sector membership has not been an effective means for fostering coordination or (2) private sector membership has not been effective at the postsecondary level (although it may be effective for secondary programs). Policy makers need to know whether either of these conclusions holds. If it is the case that private sector involvement on state councils or state technical committees is ineffective, then it may be advisable to move toward a Job Training Partnership Act (JTPA) model where the partnership is at the local level and where the private sector has a majority membership. If the private sector involvement is effective only at the secondary level, then it may be advisable to intervene and regulate postsecondary membership.

> Recommendation 3. **Support technical assistance efforts or information dissemination in the area of private sector involvement with postsecondary institutions.**

The rationale for this more limited role for the federal government is that states and localities do not, in general, have the resources or the interest in disseminating information beyond their borders. But almost 60 percent of the employers want additional information about enhancing their participation in postsecondary education. Furthermore, institutions vary widely in the level of success that they have had in promoting private sector involvement. Obviously, some institutions are succeeding. Information about exemplary or innovative practices should be made available to all institutions.

Recommendations for Institutions and Employers

Although a primary purpose of the study was to inform federal policy makers, many of the findings are useful to postsecondary institutions and employers as well. Accordingly, recommendations have been developed for these two groups.

Postsecondary Institutions

- **Institutions should develop a plan for enhancing their coordination activities with employers and should expand their employer contacts. The plan should be as precise as possible and should address the (economic) benefits to employers. Institutional representatives should be prepared to visit plants and establishments.**

Over 58 percent of the employers surveyed were interested in additional information on involvement with postsecondary institutions. The largest response category from employers on effective strategies to enlist private sector participation was to "Just ask." On the other hand, employers want their involvement to be meaningful. Institutions need first to determine carefully their own capabilities, define the needs of and potential expertise of businesses in their area, and then implement specific strategies.

It is important to be prepared to present and discuss the economic benefits of interaction to employers because their perspective is usually more immediate and of an economic nature. Furthermore, institutions need to overcome their image problem by being proactive and going to the employer rather than expecting employers to come to the institutions.

- **The substance of the information exchange or other means of interaction is what is important, and so coordination should take place at the instructor/supervisor level. Instructors should be given time and resources, where appropriate, and incentives should be put into place.**

The medium is not the message. Employers consistently indicate that they are not interested in fancy lunches or slide shows. They feel that they have legitimate needs for which they want assistance, and hard-earned expertise to provide to the postsecondary institutions. The sooner the level of interaction can be shifted away from top administrators and corporate management to instructors and supervisors, the better. Postsecondary institutions should keep the corporate management apprised of ongoing activities, and make sure that management recognizes the efforts of individual employees.

Institutions need to recognize that the process of developing successful partnerships is "painfully slow," as one administrator put it, and requires time from instructors who are already heavily committed. These institutions should consider implementing incentive structures, such as including employer contacts in salary/evaluation criteria, and should encourage/facilitate release time or sabbaticals designed to improve business linkages.

- **Postsecondary institutions need to follow-up and follow-through with employers. All recommendations or suggestions should be acknowledged and student placements should be followed-up.**

It became clear from interviewing employers that many institutions had "turned off" a number of employers from involvement. These employers felt that their suggestions were ignored or that students were poorly trained because of the academic isolation of the institutions. Obviously, not every recommendation that an employer makes can be adopted, but institutional staff can be expected to acknowledge all recommendations and explain why they cannot be adopted, if that is the case. Furthermore, institutions need to be aware that every time a student lists their educational affiliation on a resume or application, it is an advertisement for the institution. The networking among employers effectively spreads information of either a positive or negative nature. As a consequence, instructors should systematically follow-up with employers on recent graduates.

Employers indicate that their need to or interest in interactions with postsecondary institutions are usually of a sporadic, as-needed nature. The institutions then need to maintain an ongoing, structured relationship with employers, so that when the employers do want to enlist help, they will have a contact. A number of employers noted that meetings with education institutions had been scheduled sporadically, on an as-needed (as determined by the educators) basis. In these cases, employers did not turn to the institutions for assistance.

Employers

- **In agreeing to become involved with postsecondary institutions, employers must fully realize that institutional perspectives are different from their own, and that institutions have diverse constituencies to appease.**

Both the postsecondary institutions and employers must realize that each is responsible for the achievements gained by private sector involvement, and each is responsible for the problems that might have arisen. Poorly defined common bases for involvement is one of the most frequently cited problems between the public and private sector. Simply stated, the parties to the joint activities have not identified clearly their expectations and constraints nor have they communicated them well.

Several respondents noted that it takes time to develop successful partnerships in order to build trust and openness. Furthermore, respondents indicated that constant, honest communication needs to be developed. Employers thus cannot expect immediate payoffs and immediate changes. Rather, the private sector partners should think of involvement with the PIs as an investment that will have a payoff in the future in terms of more productive employees, less expensive training, or valuable technical assistance.

- **Employers need to encourage their employees to become involved with PIs and to facilitate that involvement.**

In some sense, involvement of the private sector with postsecondary institutions involves some risk and it definitely involves time and financial costs. Without the clear encouragement of upper management, some employees may be hesitant to pursue joint activities. A recent policy statement by the Committee for

Economic Development, in fact, indicates that it is the responsibility of business to get involved and to accommodate that involvement in its personnel policies such as personal leave.

- **Employers need to follow-through on their commitments and contributions to institutions.**

In some cases, the administrators of the educational institutions indicated that employer partners promised enrollments of certain levels, and didn't deliver. In other cases, attendance of meetings was poor and supervision of students in experiential work sites was not adequate. In this study, all of the institutions were public or nonprofit institutions and thus were not capable of recovering costs when losses occurred.

But beyond immediate inefficiencies that result when commitments cannot be honored, employers need to follow-up with institutions on workers that they have hired. Feedback to instructors or administrators of either a positive or negative nature can impact programs in a way that helps employers in terms of future employee productivity.

Summary

In considering a course of action, policy makers should be aware that the motivating forces and time perspectives of educational agencies and employers differ significantly. Employers are motivated by economic factors such as profit and loss and tend to have short time frames. If they are to become involved in postsecondary education, they want to know how it will benefit them (or their firm) economically, and they want payoff periods to be as short as possible. The educational institutions, on the other hand, have much longer time frames and are motivated by the teaching and learning process. They are, for the most part, student-motivated. Administrators work in an environment where it may take many months or years to adjust curricula or instructional methods. The diverse perspectives of business and education need to be recognized and accommodated by policy makers.

This study provided evidence of considerable private sector interaction with postsecondary institutions. The findings suggest that additional or improved collaborative efforts would benefit both parties and society as a whole. Both the educational institutions and employers have critical roles to play to enhance private sector involvement. Governmental policy makers can also contribute in a positive fashion, although administrators and employers prefer indirect assistance or unrestricted resources as opposed to direct mandates.

CHAPTER 1

INTRODUCTION

Private sector involvement is considered to be a critical element of the educational processes preparing workers for employment. Consequently, an important component of research on the linkages between institutions of higher education and the private sector must be study of how employers participate in various activities.

Involvement of employers in higher education serves two fundamental goals. First, it helps to ensure that graduates are well prepared to meet the needs of employers in acquired skills and knowledge of relevant equipment. Employer involvement provides educators with feedback about how well they and their students have achieved these goals and are keeping up to date with changing technology. Second, private sector involvement ensures that employers are actively involved in the operation of educational institutions that play a key role in the economic viability of their communities through personnel training, development of competitive manufacturing and delivery systems, and advancements in processed materials (Powers et al. 1988). Indeed, postsecondary education is able to improve the business climate of a geographical region and "may directly and indirectly influence every element and aspect of strategic planning" associated with economic development (Powers et al. 1988, p. 8). Therefore, to the extent that private sector involvement achieves these goals, it is an essential component of employment and training programs at the postsecondary level.

To ensure ongoing employer involvement with postsecondary education, the Carl D. Perkins Vocational Education Act of 1984 calls for "greater cooperation between public agencies and the private sector in preparing individuals for employment, in promoting the quality of vocational education in the States, and in making the vocational system more responsive to the labor market in the States" (section 2 (3)). The Act specifies that private industry represent a majority on the National Council on Vocational Education. It also requires that private industry and labor leaders have a majority representation on State Councils on Vocational Education, and that Technical Committees comprised primarily of employers advise state boards of vocational-technical education on instructional content. At the postsecondary institution level, Part C in Title III authorizes special programs for adult training, retraining, and employment development. Part E in Title III authorizes industry-education partnership for training in high technology occupations.

However, although legislative mandates exist for private sector participation with postsecondary educational institutions, funds have not been appropriated for either Part C or Part E in Title III. Moreover, the Perkins Act did not reauthorize the 15 percent set-aside for postsecondary programs that was included in the 1976 amendments to the Vocational Education Act of 1963. Consequently, in light of the critical nature of private sector involvement and in view of the limited federal support, fundamental questions for policy makers are:

- What is the level of private sector involvement in postsecondary education in the absence of specific federal funds to do so?
- What are the role and the responsibilities of the federal government in promoting or facilitating private sector involvement?

A major barrier to empirical investigation of private sector involvement is lack of systematic data at the institutional and program levels of postsecondary schools, and at the firm or establishment level of employers of graduates from these programs. Without data of these kind, analysis of linkages between education and the private sector reduces to little more than broad summaries and speculative interpretations about these relationships. For policy makers to accept the beliefs that employers should be actively involved in the processes of education, and that this involvement is essential to the level of success of postsecondary employment and training programs, data and methods of analysis must demonstrate the validity of these assumptions.

This document provides a report of analyses of data that were collected from administrators of postsecondary educational institutions with high and low levels of private sector involvement, and from businesses linked with (or potentially able to link with) these institutions. The institutions were selected from the top and bottom two deciles of the distribution of a composite index on level of private sector participation using nationally representative survey data collected in an earlier study. The methods used to identify postsecondary institutions are summarized in Appendix A of this report. The survey is described in detail in the publication entitled, Postsecondary Occupational Education Delivery: An Examination (Hollenbeck et al. 1987).

Overview of Report

Briefly, the sample for the present report consists of data from administrators of 38 postsecondary institutions with high levels of private sector involvement and 38 institutions with low levels of involvement. Administrators were asked to nominate eight to ten employers who worked with the institution (e.g., through instructional or experiential learning activities, on

21

advisory committees, or through recruitment), and data are included from their responses. Also, a random sample of employers was identified by linking program area to industries of employment in the community.

The final realized sample of employers, in most cases, consists of five nominated and five random sample employers for each institution. Both administrators and employers were interviewed by telephone to determine the circumstances, policies, and practices associated with private sector participation with postsecondary education. Therefore, not only were data collected from administrators and employers describing institutional linkages, but also information was gathered to identify different practices and policies between institutions with high and with low levels of private sector activity.

Chapter 2 focuses on the views of employers about the incentives and disincentives associated with participation in postsecondary education. After first reviewing the major types of involvement with postsecondary institutions (PIs) reported by employers, the discussion turns to an examination of differences in level of involvement by the two types of employer samples (nominated by the institution and randomly selected). Next are sections that describe both incentives and disincentives to participation as reported by employers. The questions on which this chapter focus include the following:

- Do employers report involvement because of specific strategies undertaken by institutions, because of their firms' human resource and technical assistance needs, because of external pressures such as federal (and state) mandates, or for some combination of these reasons?

- Equally important, what reasons do they give for not becoming involved?

Chapter 3 compares attitudes and strategies used to involve employers reported by administrators from institutions with high and low levels of involvement. Analysis also is included by size of the institution, employment size of the firm, and level of urbanization of the PI. Both administrators' and employers' perspectives are included. The goals of the chapter are to determine whether clearcut differences in institutional practices can be identified when (1) level of private sector involvement is constant, and (2) geographic and employer characteristics are fixed.

An important contribution of the study is to assess the extent to which legislative mandates for involvement have produced different circumstances, policies, or practices. Chapter 4 examines the views of administrators and employers on two critical questions related to legislative mandates for involving the private sector in postsecondary occupational education. These questions are,

- Should the government get involved in enhancing participation?
- Has the government played a role in linking institutions and employers?

Although the questions invite responses about all levels of government, of particular interest are comments that implicitly or explicitly reveal the impact of federal mandates, i.e.,

- What role has the Perkins legislation or CETA/JTPA programs played in fostering linkages between schools and employers?
- Do employers prefer more or less government involvement, and by what means do they think this involvement should be directed to facilitate their participation with postsecondary education?

Conclusions and recommendations are offered in chapter 5 about the federal contribution to education-employment linkages, and about how PIs and employers could enhance their respective roles in partnerships. With its limited resources and limited span of control, the federal government needs to balance its policy portfolio relative to postsecondary and adult education between promoting access through student financial aid and ensuring appropriate job skills and employment prospects through programs such as the Perkins Act and JTPA. Although enhancing student financial aid is of greatest importance to community colleges and their students (Breneman and Nelson 1981, pp. 158-159), the greater emphasis at postsecondary vocational-technical institutions is on improving skills and facilitating employment. If ensuring job skills and employment prospects are favored, the role of the federal government would be to refine process requirements, introduce performance standards, and establish price incentives (Stevens 1988).

The appendices provide information on the methods used to identify postsecondary institutions with high and low levels of private sector involvement and the data collection instruments.

CHAPTER 2

INCENTIVES AND DISINCENTIVES ASSOCIATED WITH PRIVATE SECTOR PARTICIPATION

One of the key underlying assumptions being examined in this report is that private sector participation is essential to the success of postsecondary occupational education. This assumption has guided federal employment and training programs that emphasize employability services, job development and placement, and short-term vocational training such as the Job Training Partnership Act (JTPA). Orfield and Slessarev (1986) emphasize that there is an absence of serious data on program participation and effects to test the veracity of this assumption, however.[1] The few existing national measures of program outcomes focus on the placement rate among program participants. Employers' views concerning the process and outcomes of participation with postsecondary education institutions or JTPA agencies might be quite different from the perspective of administrators or service providers. Thus, data on these issues should be obtained from employers directly. This chapter provides firsthand evidence from members of the private sector about the incentives and disincentives for involvement with postsecondary educational institutions.

Theory and Evidence

Involvement of the private sector with educational organizations can be assessed by examining the extent to which general principles of successful collaboration between the two organizations are met. These general principles include commitment by the institution (especially administrators) and the employer, flexibility of both organizations in matching needs and resources, and an invitation by the institution to become a partner through clearly defined personal contacts demonstrating openness and compatibility (Beder 1984; GAO 1983; Kaplan 1984).

Interest in private sector involvement presumes that educational institutions begin with at least a working knowledge about why business might seek cooperative relationships with higher education. More precise knowledge is essential if the institution wishes to offer tangible benefits to a business it identifies as a valuable collaborative partner. Precision and comprehensiveness assure business that the institution is committed to collaborative efforts and will seriously consider suggestions and advice. Powers and Powers (1988) identify six reasons why businesses seek cooperative relationships with higher education. These reasons are as follows:

---

[1] One source of evidence suggests that service agencies for JTPA report conflicting experiences with the private sector. Some service providers find that employers are unwilling to provide training positions, and that they screen out participants of the program who have minimum job skills or work experience (Orfield and Slessarev 1986). On the other hand, some agencies report that increased involvement of the private sector is a particular strength of JTPA. These findings are based on service providers or program operators, however, rather than on the views or activities of employers.

- To meet corporate product, service, or management needs, for which faculty can provide expert advice
- To gain access to qualified graduates who are likely to become valuable employees, especially in fields where talent is rare, such as computer science or engineering
- To upgrade the education and training of employees
- To control research and development costs, particularly by gaining access to state-of-art equipment and knowledge
- To take advantage of federally sponsored research
- To keep research cost effective (pp 25-26)

Peters and Fusfeld (1983) conducted a study for the National Science Foundation in which they asked executives from fifty-six companies why they chose to interact with higher education institutions. The prime motivation was having access to quality manpower, particularly for the industries requiring technical expertise (chemicals, energy, and electronics). But seventy-five percent of all companies mentioned the need to acquire well-trained personnel. The second most important motive was to obtain information to make technical advances, but not necessarily advances associated with usable products or processes.

Stevens (1988) argues that public-private sector arrangements are of interest to businesses (and postsecondary institutions) because these arrangements enhance immediate economic viability and promote long-term adaptability to cope with changing circumstances. Economic viability occurs through capacity-building objectives such as state investments in industry-specific training that involves increased private sector relationships with secondary and postsecondary institutions. Long-term adaptability is promoted through partnerships among industry councils, members of the state legislature, specific industries, and 2- and 4-year institutions. Indeed, Stevens (1988) notes that the stated purpose of the partnership between Florida's Centers of Electronic Emphasis and Centers on Electronic Specialization is to promote--

> a climate of excellence in education, assure a supply of quality teachers, strengthen educational partnerships, and prepare students for a competitive world marketplace through

state-of-the-art training in partnership with state-of-the-art industry guidance (p. 8).

Thus, the primary reasons for private sector involvement are likely to be (1) to address the short-term needs of recruiting well-trained personnel and staying abreast of technology and (2) to pay attention to long-term needs, such as skill upgrading through training and obtaining cost-effective research.

Data and Methods

The data for this chapter consist of information from telephone surveys of 661 employers associated with 76 non-proprietary, postsecondary educational institutions. Of the 661 employers, 321 were nominated by institutions, and 340 were selected at random. The random sample generalizes to the entire business community and represents employers who are potential collaborators of the institutions.

Data from employers pertinent to this chapter describe (1) the types of involvement with postsecondary institutions, and (2) the incentives and barriers to the respondent or the respondent's company for participation. A copy of the employer interview form is included in Appendix B.

Findings

The findings of this chapter are reported as follows. The first section is a review of the types of private sector involvement with postsecondary institutions (PIs) for the total sample of employers, and for the nominated and random subsamples. The next two sections present employers' reports of the incentives and disincentives for participation. The last section provides an assessment of the extent to which employers believe that PIs are striving to implement strategies that produce successful collaborative relationships. More specifically, it addresses how well PIs encourage reciprocal exchanges, display commitment and trust, and create a climate of openness, and the extent to which these elements affect the level of participation by employers.

Levels of Involvement with PIs

Over a dozen general modes of employer involvement were identified in the study--institutional advisory committee membership, program advisory committee membership, part-time instruction by employers, guest lectures, equipment or monetary donations, participation at job fairs or career days, employee recruitment, upgrade training (e.g., employee tuition reimbursement), customized or contract training at the postsecondary institution or on-site, technical assistance with management procedures or product lines, vending products or services to the PIs, cooperative education or internship programs, and industry training of faculty (e.g., "return to industry" programs). Across the entire sample, employers averaged engaging in just under 2.0 such activities. Employers from large businesses engaged in an average of 2.6 activities and employers from small business engaged in an average of 1.6 activities. Nominated businesses averaged 2.4 and employers from the random sample averaged 1.5 activities.

The activities that were identified most often by employers were as follows:

- Recruitment (mentioned by 49.3 percent of employers)
- Advisory committees (36.8 percent)
- Coops/internships (23.2 percent)
- Attendance of training by employees (20.1 percent)
- Customized/contract training (14.1 percent)
- Donations (13.2 percent)
- Part-time instruction (12.6 percent)

In this chapter, level of private sector participation is represented by four behavioral categories. These four categories are defined as follows:

- ACTIVE: An employer reports a moderate to high degree of involvement with PIs. The involvement suggests continuity over the last 4-5 years. Activities are regular attendance at institutional or program advisory committee meetings at least twice a year, ongoing contracts for customized or contract training, cooperative education programs and internships, frequent or regular teaching, or some combination of these activities suggesting an active involvement status.

- LIMITED ACTIVE: An employer reports fewer and/or less extensive participation in activities described in the ACTIVE category above; for example, recruitment, hiring, and classroom teaching; or cooperative education programs and participation on advisory committees or boards.

- MINIMAL: An employer reports few contacts with PIs, such as only hired graduates, or infrequently participated in cooperative education or contract training activities, or attended occasional advisory meetings, or offered tuition reimbursement.

- NO CONTACT: An employer reports no current involvement with PIs, or only had minimal involvement in the past. Tuition reimbursement is not offered, or is available but not frequently used.

Active involvement. As exhibit 2.1 shows, about 38 percent of the total sample of employers, or 248, report active involvement with PIs. Just over three-fourths of the employers categorized as active were nominated by PIs. Differences between nominated and random sample employers will be discussed later in this section. However, it is important to keep in mind that three-fourths of all responses in the active status category represent the views of employers who were nominated by PIs.

Employers who report the most extensive degree of involvement with PIs are engaged in activities directly related to the educational process rather than just recruitment or technical assistance. They report regular or frequent participation on institutional advisory committees or boards of directors where curriculum issues are discussed. Most believe that they are able to make a direct contribution to the PIs on these committees, although some were concerned that their input did not seem to receive the appropriate attention. Private sector members frequently serve as faculty members or guest lecturers. They often, but not always, provide cooperative education programs and internships or reimburse employees who complete additional education and training.

Because they have regular and ongoing involvement with PIs and generally perceive that their expertise is of some substantive value to the PIs (or at least to the program in which they are active), employers classified as actively involved are also likely to hire students and graduates from that PI. They often use their ties to select potential employees whom they believe are the best available candidates for a position with their company. Many acknowledge that their involvement with PIs is primarily to meet their company's manpower needs. Some comments along these lines are that "my involvement saves the company money in recruiting qualified workers" and "we can sell our products (to the PI) and get good work at a good price, e.g., for patents."

Some employers also were actively involved because they were personally interested in quality education, or believed the involvement constituted service to the community. Many in this category were also members of local organizations such as the Chamber of Commerce. Others were alumni(ae) who were "giving something back to the school." Perhaps more than the two or three who mentioned it wanted to "keep their skill levels up."

Nevertheless, active involvement with PIs does not ensure that employers will automatically place students or give favorable reviews about the PI. As several employers noted, "We don't hire their graduates if the overall quality of students is low, and we've made recommendations for change that have not been implemented." A computer science employer/instructor complained, "The schools teach what we (business people) taught (or learned) ten years ago," and another cautioned PIs not to "promise what you

EXHIBIT 2.1

LEVELS OF PRIVATE SECTOR PARTICIPATION WITH POSTSECONDARY INSTITUTIONS

	Employer Sample			
Level of Participation*	Nominated (%)	Random (%)	Total (N)	Total (%)
Active	76	24	248	38
Limited Active	54	46	161	24
Minimal	24	76	161	24
No Contact	8	92	91	14
Totals	N=321	N=340	N=661	

*See text for operational definitions of levels of participation. Methods of selection for employer samples are included in appendix A.

can't deliver" in quality and level of program instruction. Overall, however, employers who were categorized as actively involved with PIs generally offered favorable responses about the institutions and their graduates such as "we hire their interns on the spot" and "the more I work with the schools, the more they have tailored the program to meet my needs."

Finally, there was a tendency for employers in this group to differentiate clearly between the role of faculty and that of administration in degree of willingness toward private sector participation. Perhaps because of their own status as instructors, active status employers noted that instructors tended to be more open to contacts with the private sector. One employer stated this problem directly, "Deans and presidents think they know what employers want and ignore our advice; instructors don't." An employer teaching in an engineering program disapproved of administrators using adjunct faculty as "market constituents." Many employers wanted PIs to provide them with "important tasks" at the institution, and to seek their advice rather than to get the employers to "rubber stamp" an issue because "they don't like to adjust." A few employers in this category were neutral toward the institution they were working with because they believed that "educators are very arrogant," or at least were "slow to listen."

As a group, however, employers in the active status category held attitudes and beliefs consistent with their moderate to high level of involvement; most are believers or strong believers in the PI with which they are involved, and reported overall positive attitudes toward their involvement.

Limited active involvement. As exhibit 2.1 also shows, about 24 percent of the total employer sample are classified as participating with PIs on an active but limited basis. Of that percentage, slightly more than half are nominated employers.

Members of the private sector reported limited participation for basically one of two reasons. Either (1) their company's needs were not being met or had not been well defined, or (2) they were neutral to the educational process because previous hires from PIs had not been prepared adequately. The predominant activities that employers in this group mentioned included recruiting/hiring and cooperative education or seminar/program development. A few donated equipment or had employees who attended the institution.

Although some employers in this category emphasized the impact their involvement had on public relations activities for PIs, a similar number stated that "they (PIs) ignore employers generally," or "colleges in our area show very little interest in us; only when we contact them do they appear interested." An employer who had developed and taught a secretarial program for a

PI revealed, "Institutions are apathetic; 'show us' or we're not interested." Of those reporting dissatisfaction with the PI, most stated that "the school doesn't meet our need" or "we have to retrain them (students from the CAD program)." There was some concern that "the school takes work away from small business (mechanics)."

The employers with limited but active involvement had fewer comments overall about the private sector participation than those actively involved. However, they did not seem actively or even moderately opposed to participation, and tended to not be as critical of PI education as were the more active employers. They indicated that more information about relevant programs and personal contacts would be welcome.

The most promising basis for initiating contacts with employers who are only moderately involved with PIs might be developing internships and cooperative education programs. Some employers also stated that they would like to tour the school, or have representatives from the school tour their facilities. In general, however, many indicated a passive interest in involvement; if linkages were to develop or be strengthened, it was up to the PI to initiate and follow through with them.

Minimal involvement. About 24 percent (or 161) of all employers in this study reported minimal contact with PIs. As might be expected, over three times as many random sample employers to nominated employers were in this category (123 of the 161 were from the random sample). Almost 40% of all PIs nominated at least one employer who was minimally involved with PIs, however.

When asked why they were not actively involved with PIs, employers volunteered a wide variety of reasons. Most frequently cited were the following reasons:

- Concern about the quality of the educational process
- The business or organization did not hire entry-level workers that were graduates of PIs
- Poor communication by the PI or perceived lack of attention to specific needs of the company
- A lack of interest or no clearly identified reason to be involved

References to the quality of education and to the lack of need for graduates from PIs are similar in nature: "Their curriculum is years behind," "Their skills don't fit," or "The training is not relevant to our small business." These criticisms tended to be program specific, with nearly all linked to electronics, computer/data processing, and a few of the more specialized office occupation programs, such as legal secretarial. Most often, these criticisms were related to perceptions by the employer of a lack of attention or poor communication from the institution. For example, the employers said, "They (PIs) are arrogant regarding suggestions," "They ignored advice about the curriculum, and their students (therefore) are not well prepared," and "They (graduates) need more than two years of education."

Many of the employers who reported minimal involvement were interested in at least obtaining more information about the program; some mentioned that they would consider cooperative program students if educators "have a good plan to talk about," or "would be more involved in the community and not so arrogant and hard to talk to."

Communication problems also were linked to "no contact" or "no follow-up" by the PI, or to a belief that "they are not sensitive to advice." Employers whose involvement with PIs was minimal did not participate in activities that would provide a channel to exchange information, such as advisory committees and faculty communications. Many only coincidentally hired PI graduates, or only participated with PIs to sell their products or services, or donated equipment. In short, the reasons why employers were minimally involved were complex, but generally they were based, at least in part, on the lack of access to channels by which they could contribute.

No contact. Approximately 14 percent of all employers reported that they were not involved with postsecondary institutions. Over 90% of those in this group were random sample employers.

Just over half of those who reported no contact with PIs stated that they were neutral about becoming involved, or their responses suggested neutrality (i.e., were neither positive or negative about being involved). Of those who were not neutral, however, almost three to one were in favor of some type of involvement, or were at least interested in more information. A few wanted to be asked to participate in curriculum-related activities (advisory committees, teaching, or guest lecturing), while several others stated that they might be interested in developing cooperative programs or apprenticeships.

Of the few employers who expressed negative responses to involvement with PIs, the most frequent reasons given were that (1) they believed that students had poor skills or lacked effective skills, (2) they thought their business was too small and/or they didn't want to be involved, or (3) an earlier request or initial contact with a PI had been ignored. Comments about poor skills ranged from "employees learn better by practical experience" and "students lack the skills we need" to "our needs are too technical for 2-year graduates" or "students lack a variety of skills." No one program was criticized more than another in the area of skills development, however. Moreover, of those who were most critical about skill quality, only two or three employers (of 11) seemed unlikely to have any future involvement with PIs.

Incentives for Involvement

As noted in the previous section, over 85 percent of all employers in this study were engaged in at least a minimal level of activity with PIs. Employers cited six general types of reasons for being involved. In order of frequency, these reasons were--

- to identify a source of students for recruitment purposes (mentioned by 31.2 percent of the employers);
- to provide expertise in the education and training process of potential future employees (21.3 percent);
- to improve the productivity of current employees (19.1 percent);
- to contribute to the local community or to fulfill a personal desire to be involved in education (15.9 percent);
- to obtain assistance or advice on technical issues (3.9 percent); and
- to sell a product or service (3.5 percent).

Recruitment and hiring. Consistent with previous research reports, the most frequently mentioned incentive for participation with postsecondary institutions was to obtain well-trained, entry-level employees. Consequently, employers are most involved in two types of activities with PIs to help ensure bringing well-trained workers into their establishment. These activities were (a) recruitment and hiring from PIs, and (b) offering advice and information about the preparation of students.

Activities associated with recruitment and hiring included participating in career days and job fairs, providing cooperative or internship programs, and becoming a member of an advisory committee. These activities assisted employers in not only locating "valuable workers" or "star employees," but also allowed them to "try out" the skills of potential employees in programs such as internships and cooperative education and to "spend fewer dollars" for recruitment. Activities of this type also gave employers chances to provide substantive expertise, and as several stressed, "Voicing an opinion leads to being comfortable with an institution."

Improve productivity of current employees. Whereas the largest share of employers that were involved with PIs to some extent focused on future employees (through improved training or more effective recruitment), about 19 percent of the employers pointed out that their participation was improving the productivity of current employees. One-fifth of the employers (both nominated and from the random sample) offered tuition reimbursement to employees. About 15 percent mentioned some type of contract or customized training, often delivered on-site for the employer.

Civic obligations and personal enjoyment. Other reasons why members of the private sector became involved with PIs were to meet civic obligations, to assist a program at their alma mater, and to provide a change of pace in their daily routine. Some noted that their participation at PIs was tied to Chamber of Commerce activities and they found the relationship "convenient to their business." A few mentioned that they enjoyed the time spent on an advisory committee or institutional board, or in classroom teaching. As might be anticipated, many who mentioned personal or civic reasons were also interested in their connections with institutions in order to acquire well-trained workers.

Obtain technical assistance. Although much less frequently cited as an incentive, employers also maintained linkages with PIs to obtain assistance and advice. Some stated that they "obtained helpful information in a hurry," or that "the vocational school bends over backwards to help us." On the other hand, few random sample employers made initial contact with a PI to obtain assistance or advice; one noted that "we never think about them" (marketing and management). As might be expected, those who already had established an ongoing relationship were most comfortable contacting a PI for information or assistance.

Vendors of products and services. The number of employers who identified themselves as vendors to PIs is small (about two dozen). However, their contacts with the school were unique, because most had been initiated by the employer. Most stated that their only linkage with PIs were to support their business.

Disincentives for Involvement

It hardly needs to be pointed out that employment-related needs are persistent, continual, and critically important to a business or organization. In this study, although 85 percent of all employers reported some level of participation with PIs, only about 38 percent were actively involved, and three-fourths of these were nominated by the educational institutions. Of those randomly sampled, about 17 percent (59) of employers were actively involved with PIs. Employers were not hesitant to point out the disincentives or barriers to collaboration with PIs that they had experienced (or thought they would experience). The most frequently mentioned were--

- inflexibility/bureaucracy of PIs (mentioned by 34.0 percent of employers)
- PIs perceived as disinterested in employer advice (22.4 percent)
- time constraints (12.1 percent),
- low quality of students (7.3 percent), and
- concerns about impact on business, such as threats to security, loss of business, or "changing faces" in retail sales (3.6 percent)

Disinterest or inflexibility of PI. The greatest barrier to active involvement by the private sector was a perceived lack of interest by the PI in the employers' problems or available expertise. According to employers, signs of disinterest were: (a) no contact by the PI, or no follow-up after initial contact; (b) follow-up that was interpreted as "lip service" or superficial in nature, and suggested arrogance and inflexibility; and, to a lesser extent, (c) favortism of one business over another.

As discussed above, 14 percent of the employers in this study reported no contact with PIs. No contact represents the most pervasive type of disinterest found in this study. Another 5 percent of all employers had previous experiences with PIs suggesting that the PI was inflexible. Comments offered were that "Educators are very arrogant and feel they are always right," "I was treated like an outsider," "I was on an advisory committee and they never listened to what I said," and "they (educators) are hard to approach." Other comments were that "we called and they never responded" and "they are slow to listen."

Some blamed disinterest on the "poor (quality of) placement offices," while others mentioned that it was the "administrator's fault" or that "instructors ignore employers generally." Moreover, a few employers cautioned PIs to "be impartial - we won't give our time if favortism (to one company) is shown," and to "support all employers."

Time. Another major problem noted by employers was time. They either had limited free time to participate in activities, or they questioned the benefits obtained from the time they were giving (or might give). Most employers who mentioned time constraints, however, were more concerned with not having enough free time. It should be noted, nevertheless, that many employers stated they would be willing to contribute at least a minimum of time if they believed that the PI "was on top of things" or "there was a hard worker at the institution" who would make involvement potentially rewarding and relatively convenient.

Quality of student skills. A concern keeping some employers from being involved with PIs was the quality of skills of students. Although most employers concerned about skills stated that "students are not prepared for us" or "students are unqualified," a few believed that their business called for skills that are "too technical for 2-year graduates" (e.g., in industrial technology and computer information services), or that "we can't use people without experience" (e.g., in legal secretarial and criminal justice). One or two mentioned "there is a poor screening of students" by the PI (electrical engineering).

Both low quality of instruction and lack of attention of vocational-technical education to skills development were cited as explanations for the low quality of student skills. However, nominated employers were more likely to mention that "the curriculum that they use is old" or "they use outdated textbooks," while random sample employers were more likely to mention that "staff and equipment are dated." A few employers from both groups stressed that "the `vocational tag' hinders" or "employers tend to have stereotyped thinking about vocational-technical education."

Other disincentives. Other disincentives included the potential loss of business to students who start their own businesses and take work away, the loss of job-specific skills to other employers, and the more general belief that "the need for security or secrecy makes the effort (for involvement) seem too great." In addition, smaller businesses, especially those in retail sales, stated that they were not involved because they couldn't afford to hire graduates of PIs or didn't want customers to see new faces in their stores. Some larger financial institutions were not involved because the home office was responsible for recruitment and hiring.

Strategies to Promote Involvement

Employers were asked what they believed were likely to be the most effective strategies that postsecondary institutions could use to promote or enhance employer involvement. The most effective strategies were as follows:

- Information and personal contacts. One of the most striking findings in this study was that many employers were open to receiving information from PIs, even for those who are neutral about involvement, or who currently have no contact. Over one-third of all employers expressed an interest of this type; many were from the random sample. Some stated that a representative of the institution should contact them or their business (or other employers) using a personal approach, such as a visit, an invitation to visit the institution, or a telephone call. Others preferred to be sent information about the institution, its programs of potential interest to them, and/or its students. Consistently, however, many employers in this group put the approach quite simply: "Ask us."

However, many stressed that it was essential for the PI to first develop a clearcut plan about the nature and scope of its mission. Moreover, the plan must recognize the needs of employers rather than those of the institution, and firmly establish the means by which employers will be able to meet their needs through involvement with the PI. This statement corresponds to comments by employers who were strong believers and actively involved because "they listen to what I say" or "they respond quickly to our employee education and training needs." Conversely, employers whose experiences have produced negative feelings were likely to believe that they were "treated like an outsider" or, perhaps worse, ignored when they initiated a contact.

- "Important tasks". Approximately 15 percent of the employers contacted were interested in becoming a member of a program advisory board, contributing expertise on curriculum issues, teaching classes or participating in seminars, and participating in tasks that allowed them to contribute "substantive expertise."

- Cooperative or internship programs. About 9 percent stated that they had considered or would consider becoming active in cooperative education or internship programs. Some employers indicated that cooperative education programs could help to resolve problems associated with poorly trained students.

- Other activities. About 5 percent mentioned that they would be willing to collaborate to promote public relations activities with PI staff in job or trade fairs, at Chamber of Commerce meetings, and at professional organizational meetings. A few wanted to sell products or services to the PI.

Summary and Implications

Employers understandably expressed interest in developing and maintaining a productive workforce. They further felt that involvement with postsecondary institutions was helpful in this pursuit. However, PIs need to resolve issues that have dampened private sector interest in participation. The issues that employers believe merit attention include--

- developing and maintaining high quality, ongoing communication that indicates commitment to the relationship;
- demonstrating a willingness to be open to employer needs and ideas by soliciting input and taking action on the advice given by employers; and
- acknowledging that employers must operate in an economically competitive environment.

A frequently cited problem associated with private sector involvement was a perceived unwillingness on the part of the PI to take the necessary steps to promote that participation. This criticism was mentioned by both nominated and random sample employers, and by those who were quite active with PIs and by those who were not.

It might be expected that an employer with limited or no contact with a PI would believe that "they wouldn't listen if I called them with suggestions or advice." However, it was also the case that at least several nominated employers who were actively involved with a PI stated that "my involvement is costly and I question the value of my time spent on the advisory committee." Many employers in this study revealed that what it would actually take to get them more involved was that "they need to tell us what the benefits are to us if they want us to be involved with them."

A majority of employers in this study were at least interested in increasing their level of involvement with PIs. In nearly every case, each sought additional information about what the school has to offer. Most in this group, even those whose responses were positive about participating with postsecondary institutions, expect the PI to approach them, however.

Perhaps most positive was that even employers who expressed neutral or negative attitudes about PIs were willing to explore becoming more involved with PIs, particularly if these employers perceived that problems might not hamper their involvement and that they would benefit by the investment. Indeed, less than 3 percent of all employers in the study suggested that they clearly were negative about involvement with PIs, and that resolution of their problems would be unlikely. These were employers who reported repeated negative experiences in hiring poorly trained workers, and those who had served on program advisory committees or made substantive contributions that they felt should be taken seriously, but were not.

CHAPTER 3

POSTSECONDARY INSTITUTIONS WITH HIGH AND LOW LEVELS OF PRIVATE SECTOR PARTICIPATION

This chapter presents a discussion of private sector involvement in postsecondary education based on the responses of administrators at postsecondary institutions (PIs). In addition to providing an overview of these administrators' perspectives on barriers and effective strategies, the discussion compares responses between PIs ranked high and those ranked low on private sector participation.

The 76 PIs comprising the sample population were selected from the top and bottom two deciles of the distribution of a composite index on level of participation with business, industry, and labor using nationally representative data developed from a previous study. Of the 76 PIs, 38 were PIs ranking high and 38 ranked low on participation. The methods used to identify institutions are summarized in Appendix A.

Specific Objectives

Chapter 2 presented the views of employers about incentives and disincentives for participation with PIs. However, collaborative efforts between the public and private sectors are more fully described and evaluated using multiple cross-sections of information (Levine 1985, p. 4). Therefore, this chapter focuses on administrators' reports of the barriers and strategies for involving employers in postsecondary education. More specifically, this chapter will--

- examine the barriers that PIs perceive are most problematic to private sector involvement,
- determine the types of strategies that PIs have adopted (or believe would be most effective) to overcome the major barriers, and
- compare the responses between PIs with high and low levels of private sector activity.

To achieve these objectives, analyses focused on responses from administrators to the following questions:

- What are some of the barriers to initiating or enhancing private sector participation, and how might they be resolved?
- What are the most effective strategies to promote employer involvement?

Analyses are included that examine differences in administrative responses by instructional programs selected for study, PI size and level of community urbanization, and size of employer firm (or establishment). Where appropriate, data are added from the responses of employers to compare corresponding statements about the nature and extent of participation.

Theory and Evidence

The private sector has been involved in collaborative efforts with postsecondary educational institutions in a variety of ways for a number of years. Forms of collaboration include financial support, instructional assistance, support of students and faculty in internships and return to industry programs, assistance on administrative and program decision making, and enhancement of awareness and interest of the general public. Consequently, the issue of interest is not to determine whether private sector involvement is strategically important to the mission of postsecondary education, but to identify the major elements associated with the extent of involvement.

Critical elements of successful collaboration between an educational organization and businesses are reciprocity in resource exchange, trust and commitment, structural compatibility, and system openness (Beder 1984; GAO 1983). Powers and Powers (1988) outline some of the more important advantages to educational institutions from cooperative arrangements with business. Educational institutions link with the private sector--

- to improve their financial situations, particularly by increasing their enrollments and tuition revenues from education and training of corporate employees;

- to improve the quality of instruction and research offered through access to equipment and research facilities, through updates for faculty, and through collaboration with senior staff with special expertise;

- to increase the numbers of graduates in the high-demand fields of engineering, computer science, and mathematics, or to allow staff to participate as adjunct faculty as part of personnel exchange agreements; and

- to foster industrial innovation, both in the development of new products and processes, and in capacity building for financially or technologically constrained business (pp. 21-28; also see GAO 1983).

Peters and Fusfeld (1983) found in their study of 36 universities that the reasons for involvement with business are--

- to help diversify the university's funding base;
- to provide students with real-world problem solving (in research issues) and better training for those going into industry; and
- to avoid the bureaucratic "red tape" from obtaining government money (as cited by Powers and Powers 1983, pp. 25-26).

In short, financial considerations are major reasons for educational organizations to seek private sector involvement, although there are other important benefits as well.

Findings

The first part of this section describes the views of administrators about the major barriers to enhanced private sector participation. Section two reviews effective strategies for involving employers. Section three compares data about the barriers and strategies between high and low ranked PIs. The last section reviews the patterns of policies and practices between PIs and employers, and draws conclusions about how collaborative efforts can be enhanced.

Barriers to Private Sector Participation

Administrators were asked to describe the existing barriers that hamper participation by members of the private sector. Overwhelmingly, they stated that the most problematic issues reflected organizational differences in operational style and in expectations about the benefits of collaboration. However, administrators were equally likely to cite time constraints and financial costs of the more effective types of involvement. Other concerns were that employers and government mandates hampered linking activities, largely because of inconsistent or discrepant demands and expectations.

Poorly identified commonalities. The most frequently cited problem, mentioned by about one-third of the administrators, represented inherent differences between the educational and business sectors. Administrators referred to these differences using various terms, but most meant that there was an "image problem." A common statement was that "there is an 'ivory tower' image about education (that employers have) which prevents better communication."

One aspect of the "image problem" was believed to be related to the employers' misunderstandings about the mission and contribution of education: "Employers are not future-oriented," "They are just waking up to the need for training," or "Employers don't understand education." Some administrators described a somewhat more specific aspect of these differences, "Employers feel uneasy in coming onto the campus. They will always have you into their shop," or "They (employers) don't understand our mission and that of vocational education," and "Community colleges are not as prestigious as universities and not as well known as high schools."

However, administrators noted that institutional staff members were also a contributor to the problem. Some administrators noted that "instructors don't know how to conduct meetings with employers," or that "instructors tend to apologize to employers" for taking their time. Some faculty apparently had difficulty working in a customized training environment. Several administrators observed that it took one-on-one contact with employers by "people (instructors) who have the appropriate background (and) can establish credibility." Although there were different views about whether faculty or administrators should make changes, one administrator summed up the problem of lack of a common purpose as "due to us (at the school)."

Costs of reciprocity and commitment. If problems related to the rather abstract concept of "image" were to disappear, more substantive barriers still would exist. Over 25 percent of the administrators worried about inadequate resources.

Specific costs must be confronted when PIs attempt to involve industry in education. Instructional staff must meet their own responsibilities of providing education and training to students while coping with fiscal and time budgets. Yet many forms of participation with the private sector incur additional costs. First, making and maintaining personal and professional contacts requires a long start up time. As one administrator noted, successful contacts are "painfully slow" to establish and must be undertaken with long term goals in mind. For example, specific strategies for involving employers must be carefully determined and well-prepared prior to the initial contact, and the appropriate person must be selected for that contact.

Consequently, a fundamental barrier is that staff are already overcommitted by their regular classroom and administrative demands. Some administrators believed that if they provided "strong encouragement," the likelihood of faculty involvement might be greater. Forms of strong encouragement mentioned ranged from offering the faculty members positive incentives (e.g., praise or time off), to mandating that a percentage of faculty time be spent with employers. Several administrators favored hiring a business and industry coordinator. The few PIs contacted in this study that had a coordinator or full-time job developer were strong believers in private sector involvement.

Second, carefully planning and effectively executing strategies to gain the initial (or continuing) attention of employers were mentioned as being a major challenge. General complaints due to lack of funds were, "Our presentations (to employers) can't be showy" and "We don't have the dollars to 'wine and dine' them." More critical, fiscally-related problems were that "we must deal with substandard facilities," "we can't afford to offer specialized training," or "it is difficult (financially) to keep equipment and instructors up to date relative to employers' needs."

Financial and time costs can be aggravated by employers. One administrator noted that "sometimes (members of) business and industry don't come through with the promised enrollments. We plan for 15 but only eight or nine show up, and we go in the hole financially." Another mentioned that there were not only great start-up costs, but also heavy debts when a program was rejected.

External constraints. Some administrators acknowledged that sometimes PIs were perceived by employers as "ivory towers" not able or willing to meet their needs. But they also cited problems that affected their ability to initiate and maintain linkages with the private sector.

One of these barriers was bureaucratic rigidity or inflexibility. One type of rigidity arose within the institution, from lack of time or money, from limited expertise of faculty, or from aging equipment or facilities. However, demands or expectations stemming from sources outside the PI contributed to inflexibility, and to a perceived lack of openness to employers. Externally-imposed constraints were introduced when business competition permeated the system of education (although a few administrators admitted that the educational system operates under a different form of competition): "Some employers here want to narrow the scope of training so that they can hire all of the graduates... we have to fight against that constantly." Other employers want "too customized training." In working on boards and committees, "sometimes the advisory committee gets too active" and attempts to restrict the mission of education by "seizing ownership and defying the rules of the state department of education." One administrator noted that "employers and organized labor sometimes come to the school with contradictory requests." However, interactions in regional economic development councils were viewed as effective by the few who mentioned them.

Another type of constraint that was mentioned was imposed by legislation. Some administrators particularly disliked the paperwork required of federally sponsored programs. One emphasized that "state mandates don't help rural schools and aren't sensitive enough to legislate programs (for these schools)." The relationship between government and private sector participation is explored more fully in chapter 4.

Effective Strategies for Working with the Private Sector

Administrators were also asked to describe effective strategies for working with the private sector. The most frequently reported strategies were to (1) involve members of the private sector in institutional boards and program advisory committees, (mentioned by 38% of the administrators), (2) initiate personal contacts with employers (25 percent), (3) participate in local organizations such as the Chamber of Commerce, PIC, regional economic development councils (17 percent), and (4) work at maintaining an ongoing relationship (13 percent).

The major advantage of personal contacts with members of the private sector was seen to be that PI staff can not only anticipate specific employer needs, but also determine whether these needs can be met, and whether the two organizations can negotiate a compatible schedule. Therefore, irregular or infrequent contacts were likely to be of little substantive use in enhancing participation of business in education. This point was stressed by administrators who emphasized the need for "constant communication" with employers.

In fact, a significant part of the value of business involvement in advisory committees and economic development councils, cooperative programs and internships, and adjunct faculty positions could be that both parties are able to make ongoing assessments about the nature and extent to which the other organization is open to collaboration. Therefore, it would be expected that highly involved PIs would be more likely than those less involved to describe strategies for overcoming barriers consistent with the potential for ongoing assessments. The following section compares responses about strategies and barriers between the two PI groups.

Barriers and Effective Strategies: PIs Ranked High and Low on Participation

Administrators of the 76 PIs of this study were asked about the types and extent of private sector participation in specific activities at their institutions. These activities included institutional or program advisory committees, cooperative education or internship programs, customized or contract training, campus recruitment and classroom activities, and institutional development.

Based on each administrator's responses, an index was calculated that represents a summary score for each PI on level of involvement with the private sector. A total index for each group of PIs (high and low involvement) was then calculated. The summary score for PIs ranked high on private sector participation was just over 80. The summary score for low-ranked PIs was 41, or nearly one-half that of PIs with high activity levels. This percentage difference was substantial and can be interpreted to mean that the prior assignment of PIs by rank was relatively reliable, and that the differences reported below are not likely to be due to errors in assignment of rank.

Barriers to participation. Although they vary substantially in level of involvement, there are more similarities than differences between the two types of PIs regarding their reports of barriers to private sector participation. The most frequently reported barrier within each group was reflective of the organizational differences described above. For example, members of both PI groups were concerned about "town and gown" differences, and about the image employers are thought to hold about 2-year program graduates.

However, some minor differences between the groups emerged. PIs categorized as highly involved with the private sector were more likely to mention that a major barrier was the "negative image of vocational education." On the other hand, administrators of the low-ranked PIs were more likely to mention bureaucratic constraints imposed by employers or legislative mandates. A few cited the problems of dealing with an unstable or depressed local economy. Overall, however, differences in barriers to private sector activity were greater within than between the two PI groups.

Effective strategies. Again, differences within each group of PIs were greater than between the PI group. The most frequently reported (or potential) effective strategy was personal contact. However, some between-group differences in effective strategies were found.

Administrators from low-ranked PIs frequently mentioned using networking and public relations activities to obtain community visibility. For example, they were more likely to state that they relied on political and marketing forms of approaches such as providing "prestige for top management," and seeking "influential people for advisory committees."

High-ranked PIs were also concerned with community visibility, but they had used different strategies for making contacts. For example, they emphasized that they relied on maintaining frequent contacts, reaching more companies, and making clear to employers the economic advantages for the employers' involvement. Some mentioned trying to be better organized, and "finding out the specific needs of businesses, but being completely honest when these needs cannot be met and explaining why." Flexible approaches included brokering for customized or contract training when necessary, rotating membership on advisory or institutional committees, and "replacing business people who don't contribute."

Effects of Programs, Size, and Area of Location

How comparable are the two PI groups on (1) characteristics associated with occupational programs studied, (2) sizes of the institution or employers contacted, and (3) level of organization in the area in which the PI is located? The potential impact of each of these factors is discussed below.

Occupational programs studied. The indices of employer involvement for each specific occupational program selected for study were calculated for high and low ranked PIs. Results are presented in the following paragraphs.

First, as shown in exhibit 3.1, 27.7 percent of all programs selected for PIs ranked high on involvement represented the business and office occupations (CIP instructional program codes 06 and 07). For PIs with low levels of activity, however, the study included 41.2 percent of these programs. Nearly all of these programs reported minimal to no contact with PIs. Also, twice as many programs in the trade and industry category (CIP codes 46-48) were selected for the high- versus low-ranked PI group (18.5 percent versus 9 percent); employers contacted for these programs also reported minimal involvement with PIs. A third program difference between the PI groups is for electronics (CIP code 15), with 13.2 percent of these programs at low-ranked PIs, and 21.5 percent at high-ranked PIs.

It is possible that the number of business and office programs contributes to differences in involvement between PI groups. However, the index computed for each PI and the discrepancy in the summary scores for PI groups (80 vs 41) provides evidence that while program effects probably are present, they are not likely to severely bias the findings between PI groups. Second, some programs were selected for high-ranked PIs that were not represented in the low-ranked PI sample. Examples of these programs are veterinary science, library science, shoe repair, and poultry technology. But inspection of data from employers contacted for these programs showed that, in many cases, they had minimal to no contact with PIs.

Program size. Turning to a comparison of the relative differences in size, exhibit 3.2 shows that the differences in enrollment size for programs between PI groups were minimal. The mean is 106.6 full-time students enrolled in the programs at high-ranked PIs and 111.6 full-time students in programs at low-ranked PIs. Low-ranked PIs varied more in size, however, (deviations of 163.9 compared to 152.0).

Employment size. Both nominated and random sample employers were asked how many individuals they employed. Each employer was

EXHIBIT 3.1

DIFFERENCES IN POSTSECONDARY PROGRAMS STUDIED, BY LEVEL OF PRIVATE SECTOR PARTICIPATION

Selected Program Area	High Levels of Participation (%)	Low Levels of Participation (%)
Business and Office (CIP codes 06. and 07.)	27.7	41.2
Trade and Industry (CIP codes 46.-48.)	18.5	9.0
Electronics (CIP code 15.)	21.5	13.2
Total Programs in Study	N = 65*	N = 68*

*At most institutions, information was requested from 2 programs. Thus, there was a potential of 76 programs at institutions with high levels of participation and 76 programs at institutions with low levels of participation. In some cases, institutions only had one occupational program area. Furthermore, not all programs responded.

EXHIBIT 3.2

ENROLLMENT SIZE OF OCCUPATIONAL PROGRAM AREAS, BY LEVEL OF PRIVATE SECTOR PARTICIPATION

Enrollment Size	High Levels of Participation		Low Levels of Participation	
	Mean	SD	Mean	SD
Total Student Enrollment (FTE)*	106.6	152.0	111.6	163.9
Programs with valid enrollment data	N = 58		N = 62	

*Number of full-time equivalents (FTE) for the randomly selected occupational programs per institution.

Source: Data from Postsecondary Occupational Education Delivery: An Examination project chairperson survey conducted by the Center on Education and Training for Employment, formerly the National Center for Research in Vocational Education, The Ohio State University, Spring, 1987.

classified as either a large or small firm (or establishment) by considering those reporting less than 100 employees as "small," and firms with 100 or more as "large" (see Granovetter 1984).

There were few differences in size of employers between the two groups of PIs, as indicated in exhibit 3.3. For low-ranked PIs, large firms represented 63 percent of the nominated and 19 percent of the random sample employers. For the high-ranked PIs, large firms represented 62 percent of the nominated and 10 percent of the random sample employers. It is obvious that a much greater proportion of nominated employers in this sample were from large rather than small firms. When the two PI groups are combined, 62 percent of the nominated sample is composed of large firms, but only slightly more than 13 percent of random sample employers are large (totals not shown in exhibit 3.3). In part, the size differences in employer samples reflect the tendency of larger firms to be more involved with PIs, as employer responses reported in chapter 2 revealed and previous research has indicated. Nevertheless, it was expected that large firms would represent about 20 percent of the sample selected at random. Although the slightly more than six percent difference probably represents a design effect, it is unlikely that major biases were introduced. Random sample employers from large firms were generally contacted for business and office occupations programs, and they reported minimal involvement with PIs.

Level of urbanization. Finally, PI groups were compared by size of the community in which the PI is located. Data on size was obtained from administrators in 1987 about whether their institution is located in a rural, suburban or urban area (Hollenbeck et al. 1987). The results are presented in exhibit 3.4.

Few differences were found that might affect the pre-assignment of PIs to rank on private sector participation. Nearly 47 percent of the high-ranked PIs and 53 percent of the low-ranked PIs were located in rural areas. The numbers of PIs in suburban and urban locations were also similar. In short, the size of community in which the PI is located was not likely to substantially affect the differences between PI groups on private sector participation, although in specific communities some differences might be found.

Summary: Barriers and Strategies

Business and postsecondary educational institutions have a broad base of commonality, although their responses suggest that they often do not recognize it. Along with the findings reported in past research and in this and the previous chapter, some

EXHIBIT 3.3

EMPLOYER SIZE, BY LEVEL OF PRIVATE SECTOR PARTICIPATION

Size, by Number of Employees	High Levels of Participation		Low Levels of Participation	
	Employer Sample Type		Employer Sample Type	
	Nominated (%)	Random (%)	Nominated (%)	Random (%)
Small (<100)	38.1%	89.9%	36.6%	81.2%
Large (≥ 100)	61.9	10.4	63.4	18.8
Totals	N = 336		N = 323	

EXHIBIT 3.4

LEVEL OF URBANIZATION OF POSTSECONDARY INSTITUTIONS, BY LEVEL OF PRIVATE SECTOR PARTICIPATION

Type of Area	High Levels of Participation (%)	Low Levels of Participation (%)
Rural	46.7	53.1
Suburban	23.3	21.9
Urban	30.0	25.0
Totals	N = 30	N = 32

Source: Data from Postsecondary Occupational Education Delivery: An Examination project administrator survey conducted by the Center on Education and Training for Employment, formerly the National Center for Research in Vocational Education, Spring, 1987.

reasons emerge about why employers and administrators of PIs do not easily recognize a common base of interest.

First, most employers have little contact with postsecondary education. Their chief reason for involvement was to acquire well-trained workers and, to a lesser extent, to oversee program activities and the training of prospective employees. If employers participated for other reasons, which some did, it was highly likely that a member of the PI had contacted them, and demonstrated that their contributions were of value to the educational community.

Personal visits to the business, participation in community activities such as the Chamber of Commerce, and membership in committees on economic development are important methods for administrators and members of the PIs to make first contacts with employers. However, the employer must clearly see what benefits the linkage will bring either personally or professionally (and sometimes both). Most employers emphasized that it is up to the PI to be proactive in developing initial contacts, that the approach must be prepared in advance and targeted to specific interests, and that contacts must be nurtured as ongoing relationships.

Second, administrators cited critical reasons why private sector participation often was implemented at "painfully slow" rates. Substantial time and financial costs are involved. Several administrators reported that to make major commitments to more than a few employers required a full-time job developer or industrial coordinator. Others noted that the rapidly changing needs of some employers can outstrip the capacity of the institution to meet those needs.

Finally, there were inherent--but perhaps not irreconcilable--differences between the educational and business sectors that narrowed the potentially broad base of commonality that otherwise would play a greater role in linking the two sectors. Although employers were aware of the need to address long-term goals, their more immediate concerns were short-term: efficiency in recruitment and hiring. Educational institutions, on the other hand, while aware of short-term goals such as placing students, try to ensure that their graduates obtain skills that make them adaptive workers throughout their work lives. Moreover, if a PI is overly involved with a few employers to meet short-term goals, it loses flexibility and the ability to accommodate itself to complex environmental changes.

Is there a role for government in resolving some of these issues and the barriers they produce? Federal legislation such as the Perkins Act has mandated private sector participation for councils and technical committees. What are the views of employers and PI administrators about government contributions to business-education linkages? The next chapter addresses these questions. It presents data from both employers and administrators of PIs about the role and contributions of government to enhanced private sector involvement.

CHAPTER 4

PRIVATE SECTOR PARTICIPATION IN POSTSECONDARY EDUCATION: THE ROLE AND CONTRIBUTIONS OF GOVERNMENT

This chapter examines the role and contributions of government toward enhancement of private sector participation in postsecondary education. The findings are based on the responses of both employers and administrators at postsecondary institutions (PIs).

The Perkins Act specifies that private industry will represent a majority on National and State Councils on Vocational Education. Private sector participation on these Councils helps vocational education to be more responsive to the changing needs of business and industry and to monitor the delivery and results of existing programs. Technical Committees are also mandated to advise state boards of vocational education on the specific content required in selected instructional areas. Each of these vehicles was legislated to enable members of the private sector to make substantial contributions to vocational education and to educational institutions responsible for human resource development.

Although contributions of the business community at the national or state levels may be of considerable value to the occupational education of youth and adults, the focus of this study is on the contributions at the local level. More specifically, the discussion in this chapter addresses the relationship of government activity to the successful development and maintenance of linkages between postsecondary educational institutions and employers in their local communities. The questions that were asked of administrators and business people pertinent to this chapter are as follows:

- o Do you think that the (state or federal) government should get involved in trying to foster education-industry involvement?

- o Do you think that the government has played a role up to now in bringing business and education together?

The findings of Chapters 2 and 3 suggest that policy makers at the federal and state levels would have to address the following issues to enhance private sector participation in postsecondary education:

- o How the private sector views the mission and goals of postsecondary programs

- Whether the resource levels of PIs are sufficient to encourage participation on a major basis, particularly the resources of staff time and the financial costs of personal contacts

- Whether PIs have the ability to ensure that the appropriate people from business and industry are selected for participation, whether on advisory committees, in cooperative education or internship arrangements, or in supportive public relations activities

- How to collect impact data from employers not only to assess the effectiveness of postsecondary programs in providing a well-trained workforce, but also to monitor students' post-school success

Findings

The findings are presented first based on administrators' views about the role of government in enhancing participation by the private sector. The subsequent section reviews the responses from employers.

The Role of Government: The Views of Administrators

Exhibit 4.1 presents administrators' responses about the role of government in enhancing private sector participation. As a group, the administrators clearly favor general governmental support (41 percent) and the provision of funds without mandates for their use (21 percent). Forms of general support sought from government include recommendations to state advisory councils, promotion of 2-year occupational programs, collection of impact data, and guidelines about how to involve employers. Funds without mandates would be used to encourage local economic development activities, to reward employers through tax incentives and subsidized training, to support work-study programs and apprenticeships, to supply grants for model programs, and to finance brokering for specialized training.

Exhibit 4.1 also provides data about the role of government by level of participation with the private sector. PIs ranked low on involvement clearly preferred forms of general support (45 percent vs. 37 percent), whereas high-ranked PIs were slightly more likely to mention funding without mandates (24 percent vs. 18 percent). Also, high-ranked PIs were more likely to favor state or local programs than those ranked low (18 percent vs. 8 percent). Between the two groups, PIs with low levels of private sector involvement were more likely to oppose any type of government role (24 percent vs 21 percent).

EXHIBIT 4.1

ADMINISTRATORS' RESPONSES
THE ROLE OF GOVERNMENT IN BUSINESS-EDUCATION LINKAGES*

Response Category	High Levels of Participation (%)	Low Levels of Participation (%)	Total %
No Government Role/ Uncertain	21%	29%	25%
State or Local Only	18	8	13
Yes, General Support (Government level unspecified)	37	45	41
Yes, Funding Only (Government level unspecified)	24	18	21
Totals	N = 38	N = 38	N = 76

*The question asked of administrators was, "Do you think the (state or federal) government should get involved in trying to foster education-industry involvement?"

Administrators were also asked about the contributions that government has provided in bringing business and education together. Their responses are summarized in exhibit 4.2. The exhibit reveals that 56 percent of all administrators in this study stated that either U.S. Department of Labor-sponsored programs or U.S. Department of Education-sponsored programs played a role in linking postsecondary education to employers. Another 13 percent named another program that was either sponsored by another federal agency or by a state or locality. Finally, 6 percent indicated that "government" had made a contribution, although they were not specific about the program or the sponsorship. A quarter of the administrators indicated that they felt that government had not played a role or were uncertain.

The exhibit shows several differences between administrators from institutions with high levels of private sector participation and administrators from institutions with low levels. Nearly twice as many of the latter (low participation) indicated that they felt the government has not played a role at all in bringing business and education together (24 percent vs. 13 percent). Over 50 percent of the administrators from institutions with high levels of private sector involvement cited U.S. Department of Education programs (usually Perkins Act vocational education funds or Title III of the Higher Education Act funds). This compares to only 30 percent of the administrators from the group of institutions with low levels of interaction. Only 6 percent of the administrators of high levels of involvement institutions mentioned U.S. Department of Labor programs by themselves as compared to almost a quarter of the low levels of involvement group. These data suggest that the Perkins Act funds may have been successful in promoting business and education linkages. The institutions that were known to have high levels of private sector involvement mentioned Perkins money much more often than the institutions that were known to be lacking in employer involvement.

The Role of Government: The Views of Employers

Exhibit 4.3 presents the views of employers about the role of government in enhancing education-business linkages. The results are easily summarized. There are minimal differences between employer groups. The exhibit shows that 54 percent and 56 percent of employers contacted for each PI group approved of government involvement for linking business and education (all levels of government combined), with those contacted for low-ranked PIs slightly more in favor. About 40 percent of each group did not think government should be involved in linkages, with high-ranked PIs slightly more against government taking a role. Approximately 5 percent of all employers were not sure what the government role had been, or did not wish to answer the question.

EXHIBIT 4.2

ADMINISTRATORS' RESPONSES: THE CONTRIBUTIONS OF GOVERNMENT TO BUSINESS-EDUCATION LINKAGES*

Response Category	High Levels of Participation (%)	Low Levels of Participation (%)	Total %
Yes, U.S. Dept. of Labor programs (e.g. JTPA)	6%	24%	16%
Yes, U.S. Dept. of Education programs (e.g. Perkins)	34	19	26
Yes, both Labor and Education	19	11	14
Yes, other specific programs	16	11	13
Yes, not specific	6	5	6
No	13	24	19
Don't know/no answer	6	5	6
Totals	N = 32	N = 37	N = 69

*The question asked was, "Do you think the government has played a role up to now in bringing business and education together? Please explain."

Note: Percentages in the low participation category do not add to 100% due to rounding.

EXHIBIT 4.3

EMPLOYER'S RESPONSES: THE ROLE OF GOVERNMENT IN BUSINESS-EDUCATION LINKAGES*

Response Category	High Levels of Participation (%)	Low Levels of Participation (%)
Yes, funding	34.7%	35.5%
Yes, provide information	2.4	4.0
Yes, not specific	8.3	9.6
Yes, states not federal	8.6	7.1
No	40.1	38.6
Don't know/no answer	5.9	5.2
Totals	N = 357	N = 324

*The question asked of employers was, "Do you think the (state or federal) government should get involved in trying to foster education-industry involvement?"

The data were also examined by whether the employer was nominated by an administrator or was randomly chosen. It might be hypothesized that nominated employers would be more sympathetic to government involvement since they were, by definition, already engaged in various joint activities with postsecondary institutions. However, this was not the case. The results of this analysis (not shown in the exhibit) were virtually identical to those in exhibit 4.3.

Of the employers who favored some level of government involvement and were willing to describe that role, the following activities were most frequently mentioned. In order of frequency, these activities were--

- Provide "funds" - this statement included responses that did not receive further elaboration, or for which the use of monies was broad-based, such as for the "little guy," "to increase competition," "for basic skills development;"
- Support students - examples of this support were for student loans, scholarships, and tuition or tuition reimbursement;
- Provide incentives to employers - incentives sought were tax credits, subsidies for training, a central job bank, and economic development (create jobs).

Employers were also asked whether the state or federal government has played a role in bringing business and education together. Exhibit 4.4 summarizes their responses. The exhibit displays responses by level of private sector participation and by whether the employer was nominated by an institution or was selected into the sample randomly.

Over half of the employers felt that the government had played a role in bringing business and education together. About one in six employers identified either Labor Department programs, such as JTPA or CETA, or Education Department programs, such as vocational education funding. A large share of employers mentioned other specific programs, the preponderance of which were economic development-type programs funded by states. About 35 percent of the employers felt that the government had not played a role (more from the institutions with low levels of participation than from those with high levels--40 percent to 31 percent). About 12 percent of the employers were uncertain or chose not to answer.

Interestingly, nominated employers were more inclined to indicate that the government had not played a role than were employers that were randomly selected. Furthermore, nominated employers mentioned vocational education funding more often that did the randomly selected employers.

EXHIBIT 4.4

EMPLOYER'S RESPONSES:
THE CONTRIBUTIONS OF GOVERNMENT IN BUSINESS-EDUCATION LINKAGES*

Response Category	High Levels of Participation (%)	Low Levels of Participation (%)	Nominated (%)	Random Sample (%)
Yes, JTPA mentioned	10.1%	9.9%	7.5%	12.4%
Yes, Voc. Ed. mentioned	5.9	3.7	6.9	2.9
Yes, JTPA and Voc. Ed. mentioned	1.2	0.6	1.6	0.3
Yes, other specific program	18.1	17.0	18.7	18.5
Yes, not specific	20.8	17.0	15.3	22.4
No	31.5	39.8	37.1	34.1
Don't know/no response	12.5	12.0	13.1	10.6
TOTALS	N = 337	N = 324	N = 321	N = 340

*The question asked of employer was, "Do you think the (state or federal) government has played a role up to now in bringing business and education together? Please explain."

Note: Percentages do not add to 100% due to rounding.

What contributions to collaboration did employees think the government had made? Those who affirmed a federal contribution cited one (or more) of the following:

- JTPA and CETA - Although JTPA was the most frequently mentioned federal contribution, one in five employers thought the impacts from these programs were minimal, or caused them to invest more time in documentation than they were worth.[2]
- Forms of Student Aid - This category ranked second. Except for a few concerns about loan repayment defaults, no major criticisms were offered.

Other contributions less frequently mentioned were support for vocational programs and schools, federal assistance for special populations, and rewards to employers through subsidies and tax incentives. One or two employers mentioned federal support through retraining/start-up programs, government contracts and grants, national labs and industrial parks, and research.

Summary and Conclusions

First, administrators in this study are much more likely than members of the private sector to state that the government should play and has played a role in linking education and business. Exhibit 4.1 shows that about 80 percent of all administrators believed that the government should be involved in some way, but only about 60 percent of all employers in Exhibit 4.3 held similar views. Exhibits 4.2 and 4.4 reveal that postsecondary administrators also were more likely to think that the government has been involved than did employers.

Second, there were interesting differences about the role and contributions of government according to the institution's level of private sector participation. The pattern of differences suggests that institutions ranked high on employer participation were more aware of vocational education contributions than were those ranked low; high-ranked institutions also mentioned more programs outside of Labor or Education.

When the responses from administrators and employers about government intervention are compared to their statements on incentives and disincentives for collaboration, the following conclusions can be drawn:

---

[2] Moreover, there were confounding effects due to concurrent events: A substantial number of employers who mentioned JTPA also noted that they had become aware of (or remembered) JTPA because of media coverage of the 1988 presidential campaign.

- There seems to be little evidence to suggest that the federal government has had much of a direct impact on whether employers get involved with postsecondary institutions in ways that administrators and employers think are important.

- However, there are a few links between education and business which are indirectly related to government activity. A major contributor to linkages is financial support of students. A second factor is the extent of support provided by state and local governments (e.g., in economic development activities).

Administrators from institutions with higher rates of participation tended to be more aware of contributions that have been made by government, and to have more concrete ideas about what contributions should be provided. Consequently, certain forms of government support could enhance an already existing relationship between education and business. To date, however, there is little evidence to suggest that efforts of government, particularly those of the federal government, have had much impact on bringing together members of the business and postsecondary education sectors that were not already involved. Indeed, the most important predictor of private sector participation was the extent of current involvement.

CHAPTER 5

RECOMMENDATIONS FOR POLICY AND PRACTICE

The purposes of this chapter are to offer recommendations for policy makers to consider in facilitating industry-postsecondary education linkages and to provide administrators and employers with recommendations concerning actual linkage practices. The chapter first presents a range of alternatives for government action. Policy recommendations are offered in the next section, and recommendations for administrators and employers are discussed in the final section.

The Range of Policy Options

In considering the range of policy alternatives, the question needs to be asked whether private sector involvement in postsecondary education is beneficial at all. To date, limited empirical evidence has been collected to answer this question. However, there seems to be a general consensus as to the potential benefit of involvement. As cited above, the purpose statement of the Perkins Act affirms its promotion as federal law. The data collected for the present project reveal numerous joint activities and document both administrators' and employers' reasons for engaging in these activities. By a revealed preference or market-type test, it is probably safe to assume that private sector involvement is benefiting both parties to some extent.

The next question is the extent to which the government should get involved in linking business and education. Economic theory would suggest a role only if there are (positive or negative) externalities associated with the joint activity. In other words, if employers and PIs are the only parties that benefit from their interaction, then there is little reason for governmental interaction. However, if third parties are benefited (or harmed), there may be a role for government. It seems clear that the latter is the case. If the quality of training at an institution is enhanced by private sector involvement, then the human capital of students, the economic vitality of localities, and the programs of other institutions can be affected.

Accepting the premise that there is a role for governmental action, the range of alternatives for that role is wide. First, government (here we generally refer to the federal government) can mandate processes to ensure private sector involvement, such as the National and State Councils on Vocational Education and state technical committees specified in the Perkins Act. However, the government could go further in mandating process requirements.

Performance criteria based on coordination could be developed and implemented. Local institutional and/or program advisory committees could be mandated.

Second, incentives instead of mandates could be instituted for the promotion of private sector involvement. Institutions that establish and maintain effective joint activities could be rewarded. Corporations or individual employers could be given (further) tax advantages for their time and efforts. Policy makers could consider incentives for business-education coordination similar to those that Congress built into the Job Training Partnership Act (JTPA) for coordination between the administrative entities of JTPA and vocational education through the eight percent set-aside.

Third, the government could encourage coordination through the provision of information or technical assistance. Exemplary collaborative practices could be publicized. Evaluations or other studies of effectiveness could be undertaken and disseminated. A clearinghouse of materials could be established.

Fourth, unrestricted grants could be made available to institutions to promote coordination or other purposes as proposed by the grantee. In this way, institutions that are interested in initiating or improving their coordination mechanisms could apply for funding if they felt that resources had previously constrained such coordination. Furthermore, unrestricted grants provide a market test as to whether coordination with employers is the marginal need at institutions, or whether other programs/initiatives are more expedient.

Finally, the government could decide to do nothing. The rationale for noninvolvement might be that the benefits of coordination (e.g., better trained workers, improved curricula, or higher student placement) accrue solely to employers and institutions. As this argument suggests, there is no appropriate role for the government in linking education and business.

Alternative organizational perspectives. In considering a course of action, policymakers should be aware that the motivating forces and time perspectives of educational agencies and employers differ. Employers are for the most part motivated by economic factors such as profit and loss and tend to have short time frames. If they are to become involved in postsecondary education, they want to know how it will benefit them (or their firm) economically, and they want payoff periods to be as short as possible. The educational institutions, on the other hand, have much longer time frames and are motivated by the teaching and learning process. They are, for the most part, motivated by a concern for student outcomes. They operate in an environment where it may take many months or years to adjust curricula or teaching methods. These diverse perspectives need to be recognized by government and not torqued by its actions.

Policy Recommendations

- **Reauthorization of the Perkins Act should include a provision for demonstration grants to promote business-education coordination.**

The lack of compelling evidence concerning the benefits from federal involvement in promoting business participation with postsecondary occupational education programs and the significant level of opposition to federal involvement from employers suggest that process mandates would not be advisable. However, administrators did provide examples of situations where joint activities were constrained by inadequate resources. Grants of modest size and scope could be made available to overcome such resource barriers. Since a basis for governmental funding is the potential economic development of the locality or state, a matching requirement out of economic development funds could be considered.

A model for such an approach can be found in cooperative education legislation and regulations, Title VIII of the Higher Education Amendments of 1986. That title provides modest funding for ongoing programs and demonstration projects to promote innovation. In fact, since cooperative education is a prime example of postsecondary institution-private sector interaction, consideration should be given to coordinating or combining it with the vocational education legislation.

- **Evaluate the effectiveness of private sector involvement on state councils and state technical committees in fostering private sector involvement at the postsecondary level.**

That only one or two respondents in the entire study mentioned that the state council or a technical committee has influenced private sector involvement suggests that (1) private sector membership has not been an effective means for fostering coordination or (2) private sector membership has not been effective at the postsecondary level (although it may be effective for secondary programs). Policy makers need to know whether either of these conclusions holds. If it is the case that private sector involvement on state councils or state technical committees is ineffective, then it may be advisable to move toward a Job Training Partnership Act (JTPA) model where the partnership is at the local level and where the private sector has a majority membership. It the private sector involvement is effective only at the secondary level, then it may be advisable to intervene and regulate postsecondary membership.

- **Support technical assistance or an information clearinghouse in the area of private sector involvement. Establish regional clearinghouses to keep track of emerging work force needs and educational resources available to meet those needs.**

Similar recommendations can be found in a report commissioned by the American Association of Community and Junior Colleges (see The Chronicle of Higher Education, April 27, 1988.) The rationale for a more limited role of the federal government is that states and localities do not, in general, have the resources or the interest in disseminating information beyond their area of governance. But almost 60 percent of the employers want additional information about postsecondary education. Furthermore, institutions vary widely in the level of success that they have had in promoting private sector involvement. Obviously, some institutions are succeeding. Information about exemplary or innovative practices should be made available to all institutions.

Recommendations Concerning Practice

Although a primary purpose of this study was to inform federal policy makers, much data was collected that pertain to postsecondary institutions and employers as well. Accordingly, recommendations have been developed and will be presented for institutions and employers, respectively.

Postsecondary Institutions

- **Institutions should develop a plan for enhancing their coordination activities with employers and proceed to contact firms. The plan should be as precise as possible and should address the (economic) benefits to employers. Institutional representatives with substantive and interpersonal expertise should be prepared to visit plants and establishments.**

Almost 60 percent of the employers surveyed were interested in additional information on involvement with postsecondary institutions. One of the largest responses from employers on effective strategies to enlist private sector participation was to "Just ask." On the other hand, employers want their involvement to be meaningful. Institutions need first to determine carefully their own capabilities, define the needs of and potential expertise of businesses in their area, and then implement specific strategies.

It is important to be prepared to present and discuss the economic benefits of interaction to employers because their perspective is usually more immediate and of an economic (profit) nature. Furthermore, institutions need to be proactive by going to the employer and not expecting them to come to the institutions.

- **The substance of the information exchange or other means of interaction is what is important, and so coordination should take place at the instructor/supervisor level. Instructors should be given time and resources, where appropriate, and incentives should be put into place.**

The medium is not the message. Employers consistently indicate that they are not interested in fancy lunches or slide shows. They feel that they have legitimate needs for which they want assistance, and hard-earned expertise to provide to the PIs. The sooner the level of interaction can be shifted to the actual "players," i.e. the instructors and workplace supervisors, the better. However, both PIs and firms can be bureaucratic, political organizations, albeit with different goals and strategies. PIs should keep the corporate management apprised of ongoing activities, and make sure that management recognizes the efforts of individual employees.

Institutions need to recognize that the process of developing successful partnerships is "painfully slow" and requires time from instructors who are already heavily committed. These institutions should consider implementing incentive structures, such as including employer contacts in salary/evaluation criteria, and should encourage/facilitate release time or sabbaticals designed to improve business linkages.

- **Postsecondary institutions need to follow-up and follow-through with employers. All recommendations or suggestions should be acknowledged and student placements should be followed-up.**

The study made clear that many institutions had "turned off" a number of employers toward involvement. These employers felt that their suggestions were ignored or that students were poorly trained because of their academic isolation. Obviously, not every recommendation that an employer makes can be adopted, but institutional staff can acknowledge all recommendations and explain why they cannot be adopted, if that is the case. Furthermore, PIs need to be aware that every time a student lists their educational affiliation on a resume or application, it is an advertisement for their institution. The networking among employers effectively spreads information of either a positive or negative nature. As a consequence, instructors should systematically follow-up with employers on recent graduates.

Employers indicate that their interest in interactions with postsecondary institutions are usually of a sporadic nature. PIs then need to have a structured, periodic relationship with employers, so that when they do want to enlist help, the employers will know who to contact and when and where they will be available. A number of employers noted that meetings with education institutions had been scheduled sporadically, on an as-needed basis (determined by the educators). In these cases, employers did not turn to the institutions when they felt they had a need for information or assistance.

- **Institutional representatives should be aware that employers may have other needs or expertise beyond the scope of their current involvement. Explore with employers whether they might have interests in getting involved with other departments/programs, or whether other staff members might wish to become involved.**

The survey of employers conducted in this study identifies over a dozen types of interaction between institutions and employers. Other forms of interaction may be possible. As part of their coordination plan to enhance private sector involvement, institutions need to develop communication mechanisms that inform all staff members in the institution of ongoing relationships. If faculty are protective of "their contacts," then potentially useful interactions may never be uncovered.

- **Institutions should make an effort to rotate committee memberships.**

This particular innovative practice was mentioned by only a few administrators, but might be a good practice to adopt to expand the number of employers involved at a given institution and to generate new ideas.

Employers

- **In agreeing to become involved with postsecondary institutions, employers must fully realize that institutional perspectives are different from their own, and that institutions have diverse constituencies to appease.**

Both the postsecondary institutions and employers must realize that each is responsible for the achievements gained by private sector involvement, and each is responsible for the problems that might have arisen. This report refers to the phenomenon of poorly defined common bases for involvement as one of the most frequently cited problems between the public and private sector. Simply stated, the parties to the joint activities have not identified clearly their expectations and constraints, or they have not communicated them well to the other.

68

Several respondents noted that it takes time to develop successful partnerships in order to build trust and openness. Furthermore, respondents indicated that constant, honest communication needs to be developed. Employers thus cannot expect immediate payoffs and immediate changes. In this way, the private sector partners should think of involvement with the PIs as an investment. Costs will be incurred in the short-run, but a payoff will occur over time.

- **Employers need to encourage their employees to become involved with PIs and to facilitate that involvement.**

In some sense, involvement of the private sector with postsecondary institutions involves some risk and it definitely involves time and financial costs. Without the clear encouragement of upper management, some employees may be hesitant to pursue joint activities. A recent policy statement by the Committee for Economic Development (1985), in fact, indicates that it is the responsibility of business to get involved and to accommodate that involvement in its personnel policies such as personal leave.

- **Employers need to follow-through on their commitments and contributions to institutions.**

In some cases, the administrators at the educational institutions indicated that employer partners promised enrollments of certain levels, and didn't deliver. In other cases, attendance of meetings was poor and supervision of students in experiential worksites was not adequate. In this study, all of the PIs were public or nonprofit institutions and thus are not capable of recovering costs when losses occur.

But beyond immediate inefficiencies that result when commitments cannot be honored, employers need to follow-up with institutions on workers that they have hired. Feedback to instructors or administrators of either a positive or negative nature can refine program outcomes in a way that helps employers in terms of future employee productivity.

Summary

This study provides substantial evidence that there is private sector interaction with postsecondary institutions and a considerable interest in enhanced collaboration. But the findings clearly demonstrate the need for additional or improved collaborative efforts. Both educational institutions and employers have critical roles to play to enhance private sector involvement. Governmental policy makers can also contribute in a positive fashion, although most administrators and employers prefer informal assistance or unrestricted resources to direct mandates.

APPENDIX A

METHODS OF SAMPLE SELECTION

(This appendix is composed of a copy of a discussion paper developed in the early stages at this study to identify institutions with high or low levels of private sector participation.)

A MULTIPLE INDEX APPROACH TO THE IDENTIFICATION OF POSTSECONDARY INSTITUTIONS WITH HIGH AND LOW LEVELS OF PRIVATE SECTOR PARTICIPATION

Kevin Hollenbeck

The purpose of this discussion paper is to document the selection of the sample of institutions and programs that we propose to reinterview as part of the scope of work for U.S. Department of Labor contract J-9-M-8-0028. The desired approach to the sample selection task is to choose the top and bottom deciles from an index of private sector participation based on data from the National Center for Research in Vocational Education (NCRVE) Postsecondary Occupational Education Delivery: An Examination project survey of institutions. The required sample size is 38 institutions with high levels of private sector involvement and 38 institutions with low levels. Because of potential nonresponse and because of the ad hoc nature of the construction of the index, however, the actual approach used was to construct multiple indices and to select 50 institutions from the top and bottom two deciles of the distribution of a composite index.

The paper is comprised of three sections. First, general formulas for construction of the indices are given. The database is structured so that indices can be calculated on two different units of analysis--i) the institution as a whole, or ii) individual programs within the institution. Formulas for each type of index are provided. The second section of the paper provides the precise parameter values used in calculating the indices. The third section documents the construction of the composite index and presents the precise sample proposed for the study. An appendix documents how the survey variables were translated into the subindices that comprise the overall index.

Indices of Private Sector Involvement in Postsecondary Vocational Education

1. Unit of Analysis: The Institution

The institutional index is a weighted average of 4 subindices that take on values between 0 and 1. The 4 subindices are constructed from data from an institutional administrator, from the institution's placement director, and from two departments that participated in the survey. The chairperson and/or two faculty members from each of the two departments provided data that went into the construction of the departmental subindices. The index is constructed as follows:

$$I_i = w_a * ASCORE_i + w_p * PSCORE_i + w1 * D1SCORE_i + w2 * D2SCORE_i \tag{1}$$

where, I_i = i-th institution's index of private sector involvement

$ASCORE_i$ = i-th institution's subindex of private sector involvement calculated from the administrative official's response

$PSCORE_i$ = i-th institution's subindex of private sector involvement calculated from placement director's response

$D1SCORE_i$ ($D2SCORE_i$) = i-th institution's subindex of private sector involvement calculated from program 1 (program 2) chairperson's and faculties' responses

$w_a, w_p, w_1, w_2 \in [0,1]$ such that $w_a + w_p + w_1 + w_2 = 1.0$

1.1 Administrator subindex. The administrator subindex is the ratio of total private sector involvement "points" on 16 different variables that pertain to private sector involvement to the total possible "points." If an item of data is missing, the ratio is modified to delete that item from the numerator and denominator. The subindex is constructed as follows:

(2) $ASCORE_i = ARAWI_i/(APOT - AMISS_i)$

where, $ARAW_i = wa_1AC1_i + wa_2AC2_i + \ldots + wa_{16}AC16_i$

$= \sum_k wa_k{*}ACk_i$, for nonmissing k

$AMISS_i = wa_1AC1MAX + wa_2AC2MAX + \ldots + Wa_{16}AC16MAX$

$= \sum_k wa_k ACkMAX$, for missing k

$APOT = \sum_k wa_k ACkMAX$

ACk_i = k-th component of the administrator subindex for i-th institution's administrative official; k = 1, ..., 16.

ACkMAX = maximum value of the k-th component of the administrator index; k = 1, ..., 16.

$wa_k \in [0,1]$ such that $\sum_k wa_k = 1$.

NOTE: If administrator survey is missing, define $ASCORE_i = 0$ and normalize w_p, w_1, and w_2 (see table 2).

1.2 Placement director subindex. Analogous to the administrator subindex, the placement director subindex is the ratio of private sector involvement "points" to total potential "points" (netting out item nonresponses). That index is defined as follows:

(3) $PSCORE_i = PRAW_i/(PPOT-PMISS_i)$

where, $PRAW_i = wp_1PC1_i + wp_2PC2_i + \ldots + wp_{13}PC13_i$

$= \sum_k wp_k PCk_i$, for nonmissing k

$\text{PMISS}_i = \sum_k wp_k\text{PCkMAX}$, for missing k

$\text{PPOT} = \sum_k wp_k\text{PCkMAX}$

PCk_i = k-th component of the placement director subindex for i-th institution; k = 1, ... 13.

PCkMAX = maximum value of the k-th component of the placement director index; k = 1, ..., 13.

$wp_k \in [0,1]$ such that $\sum_k wp_k = 1$

NOTE: If placement director survey is missing, define $\text{PSCORE}_i = 0$ and normalize w_a, w1, and w2 (see table 2)

1.3 Program 1 subindex. This subindex is a weighted average of chairperson, faculty 1, and faculty 2 subindices. These subindices take a value between 0 and 1, so the program subindex takes on values between 0 and 1. It is constructed as follows:

(4) $\text{D1SCORE}_i = w1_c{*}\text{CHASCORE} + w1_f{*}\text{FAASCORE}_i + w1_f{*}\text{FABSCORE}_i$

where,

1.3.1 Chair subindex defined as follows:

(5) $\text{CHASCORE}_i = \text{CHARAW}_i/(\text{CHAPOT}-\text{CHAMISS}_i)$

where, $\text{CHARAW}_i = \sum_k wc_k\text{CCk}_i$, for nonmissing k

$\text{CHAMISS}_i = \sum_k wc_k\text{CCkMAX}$, for missing k

$\text{CHAPOT} = \sum_k wc_k\text{CCkMAX}$

CCk_i = k-th component of the chair's subindex for i-th institution's program 1 chair; k = 1, ..., 11.

CCkMAX = maximum value of the k-th component of the chair's subindex; k = 1, ..., 11.

$wc_k \in [0,1]$ such that $\sum_k wc_k = 1$.

NOTE: Use table 1 if chair or any faculty are missing.

1.3.2 Faculty 1 subindex is defined as follows:

(6) $FAASCORE_i = FAARAW_i/(FPOT - FAAMISS_i)$

where, $FAARAW_i = \sum_k wf_k FCk_i$, for nonmissing k

$FAAMISS_i = \sum_k wf_k FCkMAX$, for missing k

$FPOT = \sum_k wf_k FCkMAX$

FCk_i = k-th component of faculty 1's subindex for i-th institution's program 1; k = 1, ... 21.

FCkMAX = maximum value of the k-th component of the faculty's subindex; k = 1, ... 21.

$wf_k \in [0,1]$ such that $\sum_k wf_k = 1$

NOTE: Use table 1 if faculty 1 is missing.

1.3.3 Faculty 2 subindex is defined as follows:

(7) $FABSCORE_i = FABRAW_i/(FPOT - FABMISS_i)$

where, $FABRAW_i$, $FABMISS_i$ defined identically as $FAARAW_i$ and $FAAMISS_i$ except using faculty 2 data.

NOTE: Table 1 indicates that if there is no response from chair and faculty, then $D1SCORE_i = 0$. It must true, in this case, that program 2 is missing also.

1.4 Program 2 subindex. This subindex is defined exactly the same as program 1's subindex, except that data from the chair of the 2nd program and from faculty 3 and 4 are used to create the chair and faculty subindices. This subindex is defined as follows:

(8) $D2SCORE_i = w2_c{*}CHBSCORE_i + w2_f{*}FACSCORE_i + w2_fFADSCORE_i$

where, $w2_c,\ w2_f \in [0,1]$ such that $w2_c + w2_f + w2_f = 1$

$CHBSCORE_i$ defined same as $CHASCORE_i$ only with 2nd chair's data

$FACSCORE_i$ defined same as $FAASCORE_i$ only with 3rd faculty's data

$FADSCORE_i$ defined same as $FABSCORE_i$ only with 4th faculty's data

2. Unit of Analysis: Program

When program is used as the unit of analysis instead of institution, the index of private sector participation is the weighted average of 3 subindices that take on values between 0 and 1. The 3 subindices are for the administrative official, the placement director, and an aggregate program index. The latter is derived for the program chairperson and faculty responses. The index is defined as follows:

(9) $I_{ij} = w_aASCORE_i + w_pPSCORE_i + w_dDSCORE_{ij}$

where, I_{ij} = index for j=th program at i-th institution

$ASCORE_i$, $PSCORE_i$ from equations (2) and (3)

$DSCORE_{ij}$ = program j's subindex at institution i

= $D1SCORE_i$ or $D2SCORE_i$ depending on whether j=1 or 2.

NOTE: If chair j and faculty j are missing, then $I_{ij} = 0$.

TABLE 1

Definition of D1SCORE when Chair or Faculty are Missing[1]

If	Chair 1	Faculty 1	Faculty 2	Then D1SCORE=
1)	missing	missing	missing	0
2)	missing	missing	not missing	Impossible
3)	missing	not missing	missing	FAASCORE
4)	missing	not missing	not missing	.5*FAASCORE + .5*FABSCORE
5)	not missing	missing	missing	CHASCORE
6)	not missing	missing	not missing	Impossible
7)	not missing	not missing	missing	wl_C*CHASCORE + $(1-wl_C)$*FAASCORE
8)	not missing	not missing	not missing	from (4)

---

[1] For D2SCORE, replace chair 1 with chair 2, faculty 1, 2 with faculty 3, 4.

TABLE 2

Definition of Institutional Index (I_i) when ASCORE, PSCORE, D1SCORE, OR D2SCORE is Missing

If	Administrator	Placement Director	Program 1	Program 2	Then I_i =
1)	missing	missing	missing	missing	Impossible
2)	missing	missing	missing	not missing	Impossible
3)	missing	missing	not missing	missing	D1SCORE
4)	missing	missing	not missing	not missing	.5*D1SCORE + .5*D2SCORE
5)	missing	not missing	missing	missing	PSCORE
6)	missing	not missing	missing	not missing	Impossible
7)	missing	not missing	not missing	missing	$w_p/(w_p+w_1)*\text{PSCORE} + w_1/(w_p+w_1)*\text{D1SCORE}$
8)	missing	not missing	not missing	not missing	$\text{sum} = (w_p+w_1+w_2)$; $I_i = w_p/\text{sum}*\text{PSCORE} + w_1/\text{sum}*\text{D1SCORE} + w_2/\text{sum}*\text{D2SCORE}$
9)	not missing	missing	missing	missing	ASCORE
10)	not missing	missing	missing	not missing	Impossible
11)	not missing	missing	not missing	missing	$w_a/(w_a+w_1)*\text{ASCORE} + w_1/(w_a+w_1)*\text{D1SCORE}$
12)	not missing	missing	not missing	not missing	$\text{sum} = (w_a+w_1+w_2)$; $I_i = w_a/\text{sum}*\text{ASCORE} + w_1/\text{sum}*\text{D1SCORE} + w_2/\text{sum}*\text{D2SCORE}$
13)	not missing	not missing	missing	missing	$w_a/(w_a+w_p)*\text{ASCORE} + w_p/(w_a+w_p)*\text{PSCORE}$
14)	not missing	not missing	missing	not missing	Impossible
15)	not missing	not missing	not missing	missing	$\text{sum} = (w_a+w_p+w_1)$; $I_i = w_a/\text{sum}*\text{ASCORE} + w_p/\text{sum}*\text{PSCORE} + w_1/\text{sum}*\text{D1SCORE}$
16)	not missing	not missing	not missing	not missing	from (1)

Parameter Values Used in Constructing Indices

In constructing the indices on either an institutional or a program basis, many parameters must be chosen. These include 1) the weights used in averaging, 2) the components of the administrative official, placement director, chair, and faculty subindices, and 3) the maximum values of those components. This represents a total of 194 parameters (listed below) that need to be set:

1) w_a, w_p, w_1, w_2 (4)
2) ACk, ACkMAX, wa_k; k = 1 ,..., 16 (48)
3) PCk, PCkMAX, wp_k; k = 1 ,..., 13 (39)
4) $w1_c$, $w1_f$, $w2_c$, $w2_f$ (4)
5) CCk; CCKMAX, wc_k; k = 1 ,..., 11 (33)
6) FCk; FCKMAX, wf_k; k = 1 ,..., 21 (63)
7) w_a, w_p, w_d (3)

In fact, this assumes that the components and weighting schemes for both chairs and all 4 faculty are identical. This need not be the case, but if this assumption is relaxed, then even more parameter values would have to be determined.

Not all of the parameters are independent, however. To put greater emphasis on a particular variable in a particular index, we can increase the weighting factor or increase the maximum value of that component or both. To ignore a particular variable, we can set the weight equal to 0. But even though the parameters are not all independent, there are still an infinite number of valid combinations.

To determine the variability of the results with respect to the parameters of the index, we followed four parameter setting strategies. These four strategies are as follows:

> Strategy 1 - (Standard index with equal weights). All weights in an index are equal to each other so that each component is of equal value.
>
> Strategy 2 - (Weight more heavily active employer participation behavior relative to passive activities). Certain components of the indices come from responses to questions that indicate institutional initiative. In order to answer in certain ways, the respondents must be actively pursuing private sector participation. The other components of the indices represent either more passive interaction or come from questions from which we couldn't draw conclusions about the active or passive nature of the responses.
>
> Strategy 3 - (Weight more heavily innovative types of private sector interaction). Certain questions probed into external linkages that might be considered innovative, e.g., using employer contacts as a formal factor in salary determination.
>
> Strategy 4 - (Weight more heavily faculty responses). The calculation of the indices results in a "score" for each survey respondent of between 0 and 100. In fact, the faculty questionnaire has many more items (and perhaps, better questions) relating to private sector involvement. The fourth strategy recognizes this fact and weights faculty responses most heavily.

Appendix A provides the specifications for the components of the scores for the administrative official (ACk, ACkMAX), the placement director (PCk, PCkMAX), the chairperson (CCk, CCkMAX), and the faculty (FCk, FCkMAX) respondents. Table 3 provides the precise parameter estimates used in calculating the four indices.

Selection of Sample

All 4 indices were calculated for all the institutions in the database on both an institutional and program basis and the institutions/programs were rank ordered. There appeared to be a

TABLE 3

Parameter Values

Parameter	Strategy 1 (Standard index)	Strategy 2 (Active)	Strategy 3 (Innovative)	Strategy 4 (Faculty)
w_a, w_p, w_1, w_2	all = .25	all = .25	all = .25	$w_a = w_p = .15$ $w_1 = w_2 = .35$
ACk; ACkMAX	see Appen. A	(i) Used only AC1, AC2, AC3, AC4, AC10, AC15, AC16 (ii) Redefined AC1, AC3, AC4, AC10, AC15, AC16[a]	see Appen. A	see Appen. A
wa_k	all = 1/16	all = 1/7	$wa_2 = .60$ wa_1, wa_3 - $wa_{16} = .0267$	all = 1/16
PCk; PCkMAX	see Appen. A	Used only PC1, PC2, PC3, PC5, PC11	(i) Used all PCk as in Append. A (ii) Redefined PC1, PC3[b]	see Appen. A
wp_k	all = 1/13	all = 1/5	$wp_1 = wp_3 = .30$ all others = .0364	all = 1/13
$w1_c$, $w1_f$	all = 1/3	all = 1/3	all = 1/3	$w1_c=w2_c=.20$ $w1_f=w2_f=.60$
CCk; CCkMAX	see Appen. A	(i) Used only CC1, CC2, CC3, CC8, CC10, CC11 (ii) Redefined CC1, CC2, CC3, CC10[c]	(i) Used all CCk as in Appen. A (ii) Redefined CC10[d]	see Appen. A
wc_k	all = 1/11	all = 1/16	$wc_8 = wc_{10} = .30$ all others = .0444	all = 1/11
FCk; FCkMAX	see Appen. A	Used only FC1, FC2, FC3, FC4, FC9, FC11, FC13-FC21	see Appen. A	see Appen. A
wf_k	all = 1/21	all = 1/15	$wf_3 = wf_4 = wf_{18} = wf_{21} = .15$ all others = .0235	all = 1/21

---

[a] Redefinitions: If AC1 $\geq$ 6, then AC1 was set equal to 10. If 0 $\leq$ AC1 < 6, then AC1 was set to 0. If 0 $\leq$ AC3, AC4 < 10, then AC3, AC4 were set to 0. If AC3, AC4 = 10, they maintained their values. If AC10 = 7, it maintained its value. If 0 $\leq$ AC10 < 7, then AC10 was set to 0. If AC15, AC16 = 10, they maintained their values. If 0 $\leq$ AC15, AC16 < 10, then AC15, AC16 = 0.

[b] Redefinitions: If PC1, PC3 $\geq$ 8, then PC1, PC3 were set equal to 10. If 0 $\leq$ PC1, PC3 < 8, then PC1, PC3 = 0.

[c] Redefinitions: If CC1 $\geq$ 5, then CC1 was set to equal to 10. If 0 $\leq$ CC1 < 5, then CC1 was set to 0. If CC2, CC3 = 10, they maintained their values. If 0 $\leq$ CC2, CC3 < 10, then CC2, CC3 were set to 0. If CC10 $\geq$ 5, then CC10 was set equal to 10. If 0 $\leq$ CC10 < 5, then CC10 was set to 0.

[d] Redefined CC10 as in footnote c.

high degree of overlap or similarity in the orderings. To test the similarity, we calculated rank-order correlations with the following results:

Institutional basis

	Standard	Active	Innovative	Faculty
Standard	1.0	.883	.700	.947
Active		1.0	.764	.830
Innovative			1.0	.645
Faculty				1.0

Program basis

	Standard	Active	Innovative	Faculty
Standard	1.0	.868	.693	.918
Active		1.0	.743	.805
Innovative			1.0	.635
Faculty				1.0

With the exception of the innovative index, a high level of congruence can be observed.

Several decisions had to be made to achieve the final selection of the sample. First of all, the appropriate unit of analysis--institution or program--had to be chosen. On the grounds that (1) private sector involvement can and does occur in activities throughout an institution and not just in the curriculum and instructional focuses of programs, and (2) institutional policymaking and policy response generally emanates from the institutional leadership, we decided to use the institution as the unit of analysis and observation. It should be realized that an institutional focus will include program perspectives.

Second, a number of observations were deleted from the sample on a judgmental basis in order to improve the usefulness of the sample. Some institutions had a low intrainstitutional response rate--that is, the indices of private sector involvement were based on data from only 1 or 2 respondents. These institutions were deleted from consideration. Secondly, the programs at some institutions were atypical and findings about private sector involvement would probably not generalize to other institutions. For example, at one institution, we got responses from a fine arts program (even though we had tried to exclude fine arts in our original sample design). At another, we got responses from a labor studies program. Finally, programs at some institutions were judged as providing training for occupations that probably were not in demand. All deletions were discussed with and agreed upon by NCEP.

The final decision that needed to be made was which of the 4 indices to use in selecting the sample. Since a case could be made for any one of these indices (and probably for several others that would have been constructed), we decided to simply construct a composite index that is the arithmetic average of the four indices and choose the top and bottom ranked (nondeleted) institutions. Tables 4 and 5 provide the proposed sample in rank order together with the institution's ranking using the 4 indices. To complete the data collection, we will start with the first institutions in these two tables and proceed in order until we have 38 completed interviews.

Specifications for Translation of Survey Variables into Index Components

Component	Survey Question	Variable Number	Translation	Maximum Value
		Administrative Official (AO)		
AC1	AO2(d)	V7	-1 if missing 0 if 0 1 if 1 2 if 2 3 if 3 4 if 4 5 if 5 6 if 6 8 if 8, 9 9 if 10-14 10 if 15+	10
AC2	AO6(e)	V64	-1 if 0 0 if 4 2 if 3 5 if 2 10 if 1	10
AC3 (AC4) (AC5) (AC6)	AO9(f) (h) (p) (r)	V86 V88 V96 V98	-1 if 0 0 if 4 2 if 3 5 if 2 10 if 1	10
AC7	AO13(e)	V126	-1 if 0 0 if 9 4 if 1, 2 10 if 3	10
AC8	AO14[1]	V129	-1 if 0 0 if 2 3 if 1	
AC9	AO14 (Describe:)	V130	0 if 0, 4-11, 19 3 if 3 5 if 12 7 if 1,2	7
AC10	AO15	V131	0 if 0 2 if 1,2 7 if 3+	7
AC11	AO16	V132	0 if 0 3 if 1+	3
AC12	AO18[1]	V139	-1 if 0 0 if 2 3 if 1	3

Component	Survey Question	Variable Number	Translation	Maximum Value
AC13	AO18 (Explain:)	V140	0 if 0, 1, 2, 9	7
AC14	AO20	V142	-1 if 0 0 if 2 3 if 1	3
AC15	AO22(c)	V153	-1 if 0 1 if 7-9 3 if 5-6 5 if 4 7 if 2-3 10 if 1	10
AC16	AO22(d)	V154	-1 if 0 1 if 7-9 3 if 5-6 5 if 4 7 if 2-3 10 if 1	10 Total = 123
		Placement Director (PD)		
PC1 (PC2) (PC3)	PD4(a) 4(c) 4(e)	V12, V14 V16	-1 if missing 0 if 0 2 if 1-5 5 if 6-10 8 if 11-25 10 if >25	10
PC4	PD7(a)	V37	-1 if 0 0 if 1 1 if 2 3 if 3 5 if 4	5
PC5	PD7(j)	V38	-1 if 0 0 if 1 2 if 2 5 if 3 10 if 4	
PC6 (PC7)	PD9(c) 9(d)	V46, V47	-1 if missing 0 if 0 5 if 1	5

Component	Survey Question	Variable Number	Translation	Maximum Value
PC8	PD10(a)	V59	-1 if 0 0 if 1 2 if 2 4 if 3 6 if 4 8 if 5 10 if 6	10
PC9	PD11	V61-V69	0 if V69=1 2 otherwise	2
PC10	PD12	V70	-1 if 0 0 if 1,4 10 if 2,3	10
PC11	PD18	V86	-1 if 0 0 if 1-4,6 5 if 5	5
PC12	PD19	V87	-1 if 0 0 if 1 3 if 2	3
PC13	PD19 (Describe)	V88	0 if 0,1,2,9	7
				Total = 93
		Chairperson (Chr)		
CC1	Chr7(d)	V12	-1 if missing 0 if 0 1 if 1 2 if 2 3 if 3 4 if 4 5 if 5 6 if 6 7 if 7 8 if 8,9 9 if 10-14 10 if 15+	10
CC2 (CC3) (CC4) (CC5)	Chr12(f) (h) (p) (r)	V27, V29, V37 V39	-1 if 0 0 if 4 2 if 3 5 if 2 10 if 1	10

Component	Survey Question	Variable Number	Translation	Maximum Value
CC6	Chr14	V46	-1 if 0 0 if 1 5 if 2-5 8 if 6	8
CC7	Chr15	V47	-1 if 0 0 if 1,2 3 if 3,4 10 if 5	10
CC8	Chr18(e)	V64	-1 if 0 0 if 4 2 if 3 5 if 2 10 if 1	10
CC9	Chr23(h)	V92	-1 if 0 0 if 4 1 if 3 3 if 2 5 if 1	5
CC10	Chr26	V113	-1 if 0 0 if 1 1 if 2 2 if 3 3 if 4 4 if 5 5 if 6 6 if 7	6
CC11	Chr33(g)	V154	-1 if 0 0 if 1 5 if 2-3 10 if 4+	10 Total = 99
		Faculty (Fac)		
FC1 (FC2)	Fac11(c) (f)	V19, V22	-1 if 0 0 if 1 3 if 2 5 if 3-4 10 if 5	10
FC3	Fac21(g)	V56	-1 if 0 0 if 1 5 if 2-3 10 if 4+	10

Component	Survey Question	Variable Number	Translation	Maximum Value
FC4	Fac24(e)	V71	-1 if 0 0 if 4 2 if 3 5 if 2 10 if 1	10
FC5 (FC6) (FC7)	Fac29(a) (b) (f)	V102 V103 V109	-1 if 0 1 if 7-8 3 if 5-6 5 if 4 7 if 2-3 10 if 1	10
FC8 (FC9)	Fac31(d) (e)	V114 V115	-1 if 0 0 if 1 2 if 2 4 if 3 6 if 4 10 if 5	10
FC10	Fac34	V133	-1 if 0 0 if 1 3 if 2-5 5 if 6	5
FC11	Fac35	V134	-1 if 0 0 if 1 5 if 2-5 8 if 6	8
FC12	Fac36	V135	-1 if 0 0 if 1-2 3 if 3-4 10 if 5	10
FC13 (FC14-FC20)	Fac37(a) (b-h)	V136 (V137-V143)	-1 if 0 1 if 1 3 if 2 5 if 3 7 if 4 10 if 5	10
FC21	Fac38(a)	V144	-1 if 0 0 if 1 3 if 2-3 7 if 4	7 Total = 200

APPENDIX B:

INTERVIEW FORMS

ID: ______________

NCEP ADMINISTRATOR INTERVIEW FORM

Institution:	____________________________ ____________________________	Phone: ( )____-____	
Respondent:	____________________________ ____________________________	Interviewer: Date: Time:	________ ______________ ______________

Hello, my name is ________________________________. I'm calling from the National Center for Research in Vocational Education at The Ohio State University. In the course of conducting a study of postsecondary technical education, we contacted your institution last year and you or another administrator were kind enough to participate.

In analyzing the data from all across the United States, we found that your institution had an unusual amount of employer contact. The U.S. Department of Labor has contracted with us to explore the issue of linkage with the private sector a little more and so I would like to ask you a few additional questions on that subject. It should only take about 10-15 minutes. Is now a good time for you? (IF SO, CONDUCT THE INTERVIEW. IF NOT, ARRANGE FOR AN APPOINTMENT AT A LATER DATE.)

Appointment:

Day: ____________________________
Time: ______________ E.D.T.

Day: ____________________________
Time: ______________ E.D.T.

Day: ____________________________
Time: ______________ E.D.T.

Day: ____________________________
Time: ______________ E.D.T.

NOTES:

B/I/L Involvement

INTRODUCTION: First I would like to start out with some general questions about B/I/L involvement at your institution.

1. Does your institution have private sector participation in any of the following activities? Please briefly describe.

		no	yes
a.	institutional board of directors (institutional advisory committee)	0	1
b.	advisory committees for programs	0	1
c.	cooperative education (internship programs)	0	1
d.	customized or contract training	0	1
e.	provision of career information (speeches, seminars, guest lectures, etc.)	0	1
f.	on campus recruitment/interviewing	0	1
g.	participation in faculty inservice training (return to industry, e.g.)	0	1
h.	active participation in fundraising, equipment donations, or other institutional development	0	1
i.	Other (please describe)		

2. Over the past 4-5 years, has the amount of private sector participation at your institution increased, stayed the same, or decreased? (IF INCREASED OR DECREASED) What explains this?

Advantages/Disadvantages

3. What are the advantages to your institution in having employers get involved in certain activities? (SPECIFIC EXAMPLES)

Are there disadvantages to your institution? Please name them.

4. What are the advantages to the private sector businesspeople or labor organizations? (SPECIFIC EXAMPLES)

Are there disadvantages to business/labor?

Strategies for B/I/L Contacts

5. In your experience, what are the most effective strategies to promote employer involvement?

What are some of the barriers to enhanced private sector participation? How might they be resolved?

Government Involvement

6. Do you think that the (state or federal) government should get involved in trying to foster education-industry involvement?

Do you think that the (state or federal) government has played a role in bringing together business and education? Please explain.

7. Finally, I would appreciate it if you could give me the names and telephone numbers of 5-10 employers that work with your institution in hiring students, advisory committees, planning or delivering instruction, training, cooperative education programs, or other activities. Unless you suggest otherwise, I would like to contact some of the people you name.

	Name	Co.	Telephone	Involvement
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

ID: ______________

NCEP EMPLOYER INTERVIEW FORM

Company/ Organization: ______________________ Phone: ( ) ___-___

____

____

Respondent: ______________________ Interviewer: ________

(Title) ______________________ Date: ______________

Time: ______________

Hello, my name is ______________________________. I'm calling from the National Center for Research in Vocational Education at The Ohio State University. Funded by the U.S. Department of Labor, my organization is conducting a study of postsecondary technical education. In particular, we are examining the extent to which employers and other members of the private sector get involved with postsecondary institutions.

If possible, I would like to ask you a few questions on that subject. It should only take about 10-15 minutes. Is now a good time for you? (IF SO, CONDUCT THE INTERVIEW. IF NOT, ARRANGE FOR AN APPOINTMENT AT A LATER DATE.)

Appointment: Day: ______________________

Time: ______________ E.D.T.

Day: ______________________

Time: ______________ E.D.T.

Day: ______________________

Time: ______________ E.D.T.

Day: ______________________

Time: ______________ E.D.T.

NOTES:

Description of Company/Organization

1. First, I would appreciate it if you could give me some general information about the nature of your business or organization.

Industry (nature of the organization):

Current employment size (approx.):

Main occupations of entry level workers:

Involvement with Educational Institutions

2. Do you, or does anyone in your organization, participate in activities at or with a postsecondary institution (such as INSTITUTION NAME)? Please briefly describe for me your involvement in these activities. (PROBE: RECRUITMENT)

3. Over the past 4-5 years, has the amount of your involvement with postsecondary institutions increased, stayed the same, or decreased? (IF INCREASED OR DECREASED) What explains this?

Advantages/Disadvantages

4. How does participating in these activities benefit you/your company? (SPECIFIC EXAMPLES)

Are there disadvantages? Please name them.

5. How, do you feel, does it benefit the institution(s)? (SPECIFIC EXAMPLES)

Are there disadvantages to the institution(s)?

Government Involvement

7. Do you think that the (state or federal) government should get involved in trying to foster education-industry involvement?

Do you think that the government has played a role up to now in bringing business and education together? Please explain.

Strategies for Working with the Private Sector

6. Based on your experience, what are the most effective strategies that schools/colleges should use to promote employer involvement?

Some people have indicated the following as reasons why employers do not get involved in postsecondary collaboration. Do you feel these are valid in your own experience? If so, please briefly explain why.

--Postsecondary officials ignore employer advice

--Institutional change is too slow

--Employers' work force does not come from postsecondary programs

--Other

NOTES:

REFERENCES

Beder, Hal. "Interorganizational Cooperation: Why and How?" In Realizing the Potential of Interorganizational Cooperation, edited by Hal Beder. New Directions for Continuing Education, no. 23. San Francisco: Jossey-Bass, September, 1984.

Breneman, David W. and Nelson, Susan C. Financing Community Colleges: An Economic Perspective. Washington, D.C.: The Brookings Institution, 1981.

The Chronicle of Higher Education. "Community Colleges Urged to Make a Greater Effort to Prepare the Disadvantaged for Higher Education." The Chronicle of Higher Education, April 27, 1988.

Committee for Economic Development. Investing in Our Children: Business and the Public Schools. New York: Committee for Economic Development, 1985.

Granovetter, Mark. "Small is Bountiful: Labor Markets and Establishment Size," American Sociological Review 49: 323-334, 1984.

Hollenbeck, Kevin M.; Belcher, James O.; Dean, George D.; Rider, Betty L.; and Warmbrod, Catharine P. Postsecondary Occupational Education Delivery: An Examination. Columbus, OH: The National Center for Research in Vocational Education, The Ohio State University, 1987.

Kaplan, Dorothy J. "Components of Successful Training Programs." In Customized Job Training for Business and Industry: New Directions for Community Colleges, no. 48, edited by Robert J. Kopecek and Robert G. Clarke. San Francisco: Jossey-Bass, 1984. (ERIC no. 252 267)

Levine, Marsha. "Approaches to Private Sector Involvement in Public Education." In The Private Sector in the Public School: Can it Improve Education?, edited by Marsha Levine. Washington, D.C.: American Enterprise Institute for Public Policy Research, 1985.

Orfield, Gary and Slessarev, Helene. Job Training Under the New Federalism. Report to the Subcommittee on Employment Opportunities, Committee on Education and Labor, U.S. House of Representatives, 1986.

Peters, L.S. and Fusfeld, H.I. "Current U.S. University-Industry Research Connections." In University-Industry Research Relationships: Selected Studies. Washington, D.C.: U.S. General Accounting Office, 1983.

Powers, David R. and Powers, Mary F. "Benefits of Cooperation Between Higher Education and Industry." In *Higher Education in Partnership with Industry*. San Francisco: Jossey-Bass, 1988.

Stevens, David W. "Should the Federal Government Complement State Promotion of Private Sector Participation in Postsecondary Vocational Education?" Paper prepared for the National Center for Research in Vocational Education, The Ohio State University, 1988.

U.S. General Accounting Office. *The Federal Role in Fostering University-Industry Cooperation*. Washington, D.C.: U.S. General Accounting Office, 1983.